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REHABILITATION LITERATURE

National Society for
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REHABILITATION LITERATURE

Article of the Month

An Integration of Some Research Studies in Stuttering

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About the Author . . .

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This original article was written especially for Rehabilitation Literature.

STUTTERING OR STAMMERING (they are synonymous) has an ancient history. Mankind has long been interested in this problem. Speculations regarding its cause and treatment have been most profuse.

Modern thinking on the possible causes of stuttering is divided into three major groups: (1) Breakdown theories—the breakdown or disruption of the fine co-ordinations required for fluent speech; (2) repressed need theories—stuttering is viewed as a manifestation of a neurosis; (3) theories on anticipatory struggle reaction—the anticipation of stuttering causes the stutterer to tense his speech muscles, which in turn interferes with fluent speech.

The treatment of stuttering, like its cause, is a matter about which there is much disagreement. Traditional methods employed distraction, suggestion, and relaxation. Today most therapists employ one or more of the following technics: various forms of psychotherapy, perceptual and evaluative reorientation, desensitization therapy, voluntary stuttering, and the development of an objective attitude.

It is our intention to integrate some of the research pertinent to stuttering. We do not discuss the research relevant to etiology or therapy but rather that research which may be broadly classified as characteristic of stuttering. In a somewhat similar vein, Bloodstein[12] has recently synthesized many of these data. The "whole" problem of stuttering is reviewed for those who are interested and desirous of such a comprehensive treatment.

Incidence

Little is known about the incidence of stuttering in the adult population. Shames and Beams[75] sent questionnaires for this purpose to clergymen since they have many opportunities for close contact with large numbers of adults as well as with children. Of the 150 contacted, 22 returned usable data. The table below shows a definite downward

trend in stuttering among the older population. The highest percentage of stutterers, .9 percent, is in the three to five age group.

Age	N		Stutterers		Percent Stutterers
	Male	Female	Male	Female	
3 to 5	404	484	4	4	.90
6 to 11	874	907	5	1	.34
12 to 19	649	650	5	5	.77
20 to 29	572	642	6	4	.82
30 to 39	906	972	8	3	.59
40 to 49	842	945	9	4	.73
50 to 59	517	643	2	1	.26
60 to 69	338	429	2	0	.25
70 to 79	155	210	0	1	.27
80	40	78	0	0	.00
Total	5,297	5,960	41	23	

About one percent of our *total population* would be classified as stutterers if early childhood nonfluencies were omitted.[8] According to the Midcentury White House Conference Report,[3] approximately .7 percent or 280,000 children 5 to 21 years of age are stutterers. There are no indications relevant to a difference in incidence between white and Negro stutterers.[1]

A considerable body of relevant information has been obtained pertinent to nonfluencies of normal children[16, 26] as well as children found to be stutterers by their parents[25, 46] or by speech pathologists.[31, 56] In general it has been found that repetitions of sounds or syllables, words, and phrases are common in the speech of children and that the average number of words repeated by normal children ranges from 10 to about 100 per 1,000 running words. Some of those children labeled as stutterers by their parents were found to have a higher repetition rate than their controls. On the other hand, many of these children were found to have a degree of nonfluency within normal limits. Nonstuttering children, in general, present the same types of interruptions in speech and in roughly the same proportions as the stuttering children; the difference between the two groups is in the over-all number of interruptions.

Research pertinent to the incidence of stuttering among mongoloids[40] and among psychotics[34] reveals that a positive relationship exists between stuttering and mongolism, whereas no definite statements can be made concerning the frequency and distribution of stuttering in psychotics. It may well be, however, that there is definite increase of stuttering among some groups with organic psychoses (*e.g.*, institutionalized epileptics) and among mentally defective children.

Adaptation and Consistency Effects

One of the phenomena of stuttering is the stutterer's ability to attain more fluency after rereading a passage a number of times under varying conditions. This phenomenon can be said to be an adaptation to the stimuli—a temporary extinction of a conditioned response. When stuttering perseveres on a given word or words under such conditions as noted above, the stutterer may be said to have a high consistency score—a *strong* fear of certain word cues that defies extinction under the given conditions.

Johnson and Knott[49] were the first to note this phenomenon of adaptation. Some of the factors related to adaptation, which have since been studied, are reading of constant verbal material versus changing material,[48] number of successive readings,[33] size of the listening audience,[65, 81] the time interval between readings,[81] the nature of the reading situation,[28] the influence of the reading material,[37] and the influence of continuous reading.[29] These studies and others have indicated that stuttering behavior is lawful in terms of learning theory and that the frequency of stuttering is attenuated when the conditioned cues that elicit stuttering are partially extinguished. Furthermore, in all animal behavior, response may be temporarily extinguished in a habitual stimulus-response situation. In an attempt to test these findings in spontaneous speech situations, experimenters have had stutterers talk more than was usual in their native environment,[71] had them answer a series of questions,[72] and had them relate incidents about predetermined topics.[61] In all cases, adaptation was achieved.

The spontaneous recovery of the stuttering response was investigated by Frick,[35] who hypothesized that the recovery of stuttering behavior was a function of the degree of adaptation. He found, however, that the amount of recovery that did occur was not a direct function of the conditions of adaptation used in his experiment. Certain words are assumed to defy adaptation because they are so strongly associated with fear of stuttering. Skalbeck[82] found that stutterers who can successfully predict which words they will stutter on will be the ones to encounter this problem.

Loci of Stuttering in the Speech Sequence

The question that logically arises is: Are there certain sounds that are consistently stuttered on? Furthermore, are there grammatical factors, such as the syntax of a sentence, that influence stuttering?

There has been much research pertinent to these questions.[18, 32, 43, 57, 67, 88] With regard to the first question, it is agreed that no particular sounds are stuttered on by all stutterers. It is a matter of individual differences. However, it does appear that greater amounts of stuttering do occur on words according to the following attributes: initial consonant, initial position in the sentence, and word length (the more sounds in the word, the greater

the probability of stuttering). Grammatical function influences stuttering as follows: nouns, verbs, adjectives, and adverbs are stuttered on more frequently than prepositions, conjunctions, articles, and pronouns. In general, there is more stuttering on consonants than vowels and on accented rather than unaccented syllables. Any word, regardless of its grammatical function, is likely to be stuttered on more if placed in a meaningful context (high propositional value) as opposed to a nonsense context.

These studies indicate that stuttering does not occur randomly during oral reading or spontaneous speech but rather is a selective response to certain word, sound, or syllable cues.

Conditions Under Which Stuttering Is Reduced or Absent

Bloodstein[11] reviewed the literature pertinent to this topic. The following summarizes his findings:

A. Reduced Communicative Responsibility:
   1. An utterance that does not consist of meaningful units of speech is relatively easy for the stutterer, *e.g.*, nonsense material, isolated words.
   2. Stutterers rarely have difficulty when they sing, act, imitate, or when they are alone.
   3. Stutterers are usually fluent when they count and when they speak to infants or animals.

B. Behavior of Listener:
   A child may stutter severely before one teacher and have no difficulty before another, likewise, before one parent and not the other.

C. Changes in Accustomed Speech Pattern:
   Pitch, time, loudness, and quality: there are significant reductions in stuttering when these patterns are changed.

D. Speech Accompanied by Bodily Movement:
   Stuttering is markedly reduced when bodily movement accompanies speech.

E. Strong or Unusual Stimulation:
   Extreme fear, anger, happiness, or other emotion or excitement will reduce stuttering.

F. Reduced Motivation To Make a Favorable Impression:
   There is usually less stuttering when the stutterer talks to people he knows well.

Bloodstein published another article[13] in which he attempted to formulate a theory by means of which the above-mentioned conditions may be unified. It was found possible to describe over 100 conditions under which fairly large percentages of stutterers rated their stuttering as reduced. From these observations it was suggested that the reduction in stuttering was related to reduced anxiety about stuttering.

Laterality Studies

The handedness problem as a function of major and minor cerebral dominance has received a good deal of attention. Bryngelson and Rutherford[21] reported a large number of stutterers shifted from left hand to right hand and also that more stutterers than nonstutterers were ambidextrous. The following table presents their results.

	74 Non-stutterers N (%)	*74 Stutterers N (%)*
Present Handedness		
Right	75.0	61.6
Left	16.7	4.1
Ambidextrous	8.3	34.3
Shifted left to right	9.5	71.6
History of left handedness in family	63.0	74.0
History of stuttering in family	18.0	46.0

In another study relating handedness to stuttering, Daniels[24] found that no such relation exists. The literature is quite confusing regarding stutterers and their handedness or eyedness. There are many studies in which the results are contradictory. It is quite probable, however, that the apparent differences may be caused by procedural or definitional differences and are not real differences.

Other studies by Milisen and Johnson[59] and West, Ansberry, and Carr[90] indicate that stutterers have more left-handed and stuttering relatives than nonstutterers have.

Personality Studies

Duncan[30] has investigated the adjustment that stutterers make in the home. She had 62 stutterers (49 men and 13 women) and a like number of nonstutterers fill out the Adjustment Inventory by H. M. Bell. The results indicated a significantly greater frequency among stutterers of a feeling of a lack of love in the home, of being a disappointment to parents, and of not being understood.

Cypreansen[23] administered the California Test of Personality. Her results indicated that stutterers were less self-reliant, had fewer social skills and poorer community relationships, and had more nervous symptoms than would be expected.

Glasner[36] investigated the personality characteristics of 70 stutterers under the age of five. All the children examined manifested some sort of emotional abnormality, *e.g.*, 54 percent were characterized as "feeding problems," 27 percent were enuretic, 20 percent had exaggerated fears or nightmares; some other symptoms of smaller degree were thumb sucking, exaggerated sibling jealousy, nail biting, masturbation. The characterization of the child given by the mother was also indicative of personality

maladjustment, *e.g.*, 33 percent were described as "sensitive" or "nervous"; lesser descriptions were shy, high-strung, unsocial, and excitable.

Schultz[74] compared adult stutterers' responses in a nondirective counseling situation with those of psychoneurotics. He concludes that the stutterers he studied had many symptoms common to psychoneurotics. The following were found:

1. Stutterers were submissive.
2. Stutterers were hypersensitive.
3. Mental trauma seemed evident in the life histories of 9 out of 10 of the stutterers in the group studied.
4. A poverty of everyday satisfaction, very high standards, dominant or irritating parents, and lack of affection in the home were evident factors in the life histories of 9 out of 10 of the stutterers in the group studied.

Sheehan and Zelen[79] found that stutterers compared with nonstuttering controls had a significantly lower discrepancy between aim and accomplishment; they ranged more widely in their aspirations and succeeded more frequently. In general, they showed a lower level of aspiration.

Brown and Hull[19] used the Minnesota Personality Scale and found that the results were not as severe as previous findings seemed to suggest. This study and the following studies that are reported indicate few differences between stutterers and nonstutterers.

Adler,[2] Horowitz,[44] and Staats[84] tested the attitude stutterers manifest toward humor. Adler's study pertained to humor about defectives. He had the stutterers and a control group rate tape-recorded jokes about the handicapped. It was found that there were no significant differences in the way the two groups responded to the humor. Horowitz and Staats found similar results in their studies.

A recent series of studies employed the Rosenzweig Picture-Frustration Test to test psychoanalytic suppositions about the covert manner in which the stutterer expresses hostility.[55, 64, 66] These studies present conflicting results. Similarly, a series of Rorschach studies[50, 58, 68, 80] have been quite inconsistent in their findings. Dickson,[27] employing the Blacky Test, found that more stutterers than nonstutterers had scores considered to be indicative of anal-sadistic fixation. Bloodstein and Schreiber[15] found no significant indications of obsessiveness-compulsiveness when using the Thematic Apperception Test (TAT). Reviewing the literature pertinent to projective studies of stuttering, Sheehan[77] concluded that no one personality pattern could be found for all stutterers.

Heredity and Environment

The relationship between stuttering and its possible inheritance has been investigated.[5, 42, 89] The majority of evidence indicates that, although a higher incidence of stutterers is to be found in families with histories of stuttering, it is probably not inherited. Gray[42] investigated a family with stutterers in five generations and in comparing two branches found no evidence of inheritance. West and his colleagues[91] explain the higher incidence by the assumption of an inherited *tendency* to stutter. The psychosocial environment triggers off the stuttering. The higher incidence previously referred to can probably be better explained by the fact that families that do have a history of stuttering are much more prone to be anxious about nonfluencies and hence cause the stuttering. On the other hand, there is evidence to indicate it may be sex-linked. Berry[6] and Graf[41] report that a higher incidence of stuttering is found among twins and twinning families than in the general population and that there is a greater incidence of twinning in stuttering families.[7]

Parental age at conception as a possible factor influencing stuttering was investigated by Brilty.[17] It was concluded that no such relationship was evident.

Environmental studies have explored the possible effects of parental attitudes,[4, 51, 60] teacher attitudes,[4] bilingualism,[87] and economic factors.[62] As might be expected, the attitude of parents and teachers is extremely relevant to stuttering and the stutterer's behavior. A significant number of stutterers come from homes that maintain excessively high standards of behavior, that exhibit excessive disciplinary actions. Many of these parents are also overly protective and show a tendency toward submissiveness. Those teachers who had some information pertinent to stuttering were more objective than those who had no education with regard to the psychology of stuttering. The effects of bilingualism in the home are somewhat difficult to isolate. Although a significantly greater number of stutterers come from bilingual homes, it may be that factors other than the bilingualism affect the stuttering, *e.g.*, economic insecurity and emotional instability found in many "foreign" homes. Research conducted in Scotland[62] indicates that socioeconomic status affects the stutterer: more stutterers are found to come from homes where the fathers are semiskilled, and hence hold a particular status in our society, than from homes classified differently in socioeconomic status.

In another article "Stuttering—Its Source and Its Solution" (Nursing World. June, 1960. 134:6:18-21), *Dr. Adler discusses the conditions under which stuttering may develop and problems the stutterer faces. He suggests in practical terms how one untrained in speech therapy (in this article, a public health, school, or pediatric nurse) can co-operate with parents, teacher, and speech therapist in his relations with a young stutterer and how he might help the older stutterer meet his problems intelligently.*

—The Editor.

Sex Differences

Schuell[73] reports on sex differences in relation to stuttering. As can be seen in the following table, males consistently outnumber females with regard to stuttering; the proportion of male stutterers was greater in a college population than in a noncollege population treated in a university clinic.

Stutterers Whose Records Were in the Files of the University of Iowa Speech Clinic, as of August, 1945, According to Age and Sex, and University or Nonuniversity Status

Age	*Male*	*Female*	*Ratio: Male to Female*
2-5	79	26	2.0 to 1
6-10	146	34	4.2 to 1
11-16	223	48	4.6 to 1
17-21	292	56	5.2 to 1
22-30	166	19	5.5 to 1
Over 31	57	23	2.4 to 1
Unclassified	67	7	
Total	1,030	213	4.8 to 1
	University Status		
17-21	178	24	7.4 to 1
22-30	90	9	10.0 to 1
Above 31	20*	9	3.3 to 1
Total	298	42	7.0 to 1
	Nonuniversity Status		
17-21	114	32	3.7 to 1
22-30	76	10	7.6 to 1
Above 31	27	14	1.9 to 1
Total	217	56	3.8 to 1

*This figure should probably read 30, judging from figure given for column total and ratio of male to female for age group above 31.—*Editor*

The higher incidence of stuttering among males is consistent with other findings that maleness as a genic factor predisposes the male to varied problems. For example, males outnumber females in the incidence of chorea, rickets, asthma, tetany, convulsions, and epilepsy. More male children than female children have birth injuries and more males are born with structural anomalies such as cleft palate.

Communication Theory and Stuttering

Communication theory may be broadly defined as the process by which one mind may affect another mind. Various disciplines are concerned with this problem. Psycholinguistics is concerned with the ability of a listener to decode linguistic information; information theory is concerned with the transmission of information from speaker to listener. Few studies have concerned themselves with the stutterer's ability to communicate from these points of view.

Moser, Dreher, and Adler[63] had normal speakers transmit two-digit numbers over noisy communication channels using two different methods of phonation: 1) normal delivery, *e.g.*, one-two; 2) stuttered (initial phoneme is repeated), *e.g.*, wuh-one, tuh-two, thuh-three. It was found that when listeners heard the latter method intelligibility (understandability) scores were significantly higher. Other work by these investigators employed 1) a double-bounce block, *e.g.*, wuh-wuh-one, 2) a prolongation of the initial sound, and 3) normal transmission. It was found that the last-named method was most intelligible. These investigations indicate the possibility that stutterers may be somewhat handicapped in their ability to communicate since they usually have more than one repetition when they stutter.

Lee[52] has demonstrated that delayed speech feedback, *i.e.*, returning the speaker's speech to his ears about one-quarter of a second after he has spoken, results in repetitions and blockages in his speech. Those who are not stutterers may experience, at least to a superficial degree, the sensation of involuntary syllable repetition.

Co-ordination and Rhythm of Stutterers

If stuttering is a manifestation of aberrant neurological functioning, motor development and performance may also be retarded or below normal. Results of research in this area are quite inconclusive. At least two studies[9, 83] have indicated that the stutterer does have lesser ability to co-ordinate his speech mechanism as compared to his general performance. In the main, in these studies stutterers and controls performed certain tasks of motor skill requiring speed, co-ordination, and rhythm of the speech musculature (*e.g.*, diadochokinetic rate of paired muscles used in speech) as well as arm and leg movement. Conversely, however, other studies[69, 70, 85] have found no significant differences between stutterers and nonstutterers with respect to their general motor skills.

Reading and Stuttering

Travis[86] found stutterers were retarded in the rate and comprehension of silent and oral reading. Bloodstein[14] also found that the reading rates of stutterers, while they were fluent, were slower than that of nonstutterers.

Anxiety and Stuttering

Most authorities agree that anxiety is operant in stuttering behavior. Their conclusions are based on empirical judgment or experimental data. There are some studies, however, that have not found anxiety to be present in an

abnormal degree or, when present, not to affect the stuttering.

The Blantons[10] believe that there is a basic emotional disability that brings forth the stuttering and that the attempt to suppress this speech behavior reinforces the original anxiety causing the disturbance. They say "the mature stutterer will be the first to agree that fear and emotional anxiety are the great causative factors in this disorder." West and co-workers[91] say that stuttering arises on the basis of an inherited physiological predisposition. The underlying physiological defect, however, cannot itself set off the stuttering behavior. The trigger is the psychosocial overlay, a part of which is a generalized anxiety. Johnson[47] says:

> And the surest means to normal speech lies in overcoming the fear of stuttering. For in the absence of this fear there is no expectation that stuttering is going to occur, there is obviously no motivation or drive to avoid it. . . . That is why the basic objective of the procedures . . . is to reduce, and if possible to eliminate, the anxiety, the fear of stuttering.

Coriat[22] is of the opinion that "the anxiety in stammerers . . . is caused by fear of the ego being overwhelmed." McGinnis[54] states that "the over-anxiety handicaps the [stutterer's] freedom of thought and performance."

Recent attempts have been made to explain stuttering in terms of an anxiety-reduction learning theory.[92, 93] It is believed that a feared word arouses a state of expectancy (anxiety) and that *completion* of the stuttered act is accompanied by a reduction of the anxiety-tension evoked by the stimulus word. Sheehan[76, 78] and Luper[53] suggest the possibility that the anxiety may be reduced as soon as the stutterer *begins* his stuttering rather than at the completion of the act. Luper has further suggested the possibility that stuttering behavior may not even be affected by anxiety reduction.

Goss[38] reports that stuttering behavior is a direct function of the strength of the anxiety. Two sources of anxiety were hypothesized to explain this finding. One source was identified as anxiety resulting from anticipation of what was to come (word exposure), while the duration of the time interval between word stimulus and signal to say the word was assumed to be the second source of anxiety. Later research by Goss[39] and Horton[45] supports the hypothesis of an increase in anxiety in anticipation of word cues. Brutten,[20] however, reports that there is extremely little or no difference between stutterers and the "normal" population in those factors that comprise Maslow's conception of security-insecurity (anxiety).

Conclusion

Obviously there is much disagreement among the studies previously referred to. It is highly probable, however, that many of these differences are due to procedural or definitional differences and are not real differences.

Some valid generalizations can probably be made on the basis of the research:

A. Incidence:
   1. Approximately one percent of our total population are stutterers.
   2. There is a downward trend in stuttering among the older population.

B. Adaptation and Consistency:
   Stutterers who consistently stutter on certain words do so because of a strong fear of stuttering on these words. As a rule, however, repetitions of the verbal sequence allows for more fluency.

C. Loci of Stuttering in the Speech Sequence:
   Stuttering does not occur randomly during oral reading or spontaneous speech but rather is a selective response to a certain word, sound, or syllable cue.

D. Conditions Under Which Stuttering Is Reduced or Absent:
   Those situations that allow for reduced anxiety about stuttering will usually allow for a reduction in stuttering.

E. Laterality:
   There is still confusion relative to the relationship between laterality and stuttering; however, the more recent evidence does not seem to indicate any positive relationship.

F. Personality:
   The mass of research data pertinent to the personality of the stutterer indicates that 1) there is no one personality pattern common to all stutterers, 2) many stutterers have some type of personality problem.

G. Heredity and Environment:
   1. The majority of research data would seem to indicate that stuttering is not inherited.
   2. An environment that is overly protective and highly perfectionistic would seem to be important in the development of stuttering.

H. Sex Differences:
   There is a higher incidence of stuttering among males than females.

I. Communication Theory and Stuttering:
   Stutterers are probably handicapped to some degree in their ability to communicate understandable speech to their audience.

J. Co-ordination and Rhythm of Stuttering:
   The research data disagree as to the relationship between co-ordination and rhythm and stuttering. More research is needed in this area.

K. Reading and Stuttering:
   There is some evidence to indicate stutterers are retarded in their reading ability (silent reading or reading when fluent).

L. Anxiety and Stuttering:
   There seems to be positive evidence that anxiety is present in stuttering behavior.

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(Continued on page 53)

Cerebral Palsy and Related Disorders

A Developmental Approach to Dysfunction

by
Eric Denhoff, M.D.
and
Isabel Pick Robinault, Ph.D.

About the Authors . . .

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Dr. Robinault is director of professional education, Institute for the Crippled and Disabled, New York City. She has a wide background in occupational therapy and as a lecturer. Her Ph.D. degree in developmental psychology was earned at Columbia University.

About the Reviewer . . .

Dr. Illingworth is professor of child health, University of Sheffield, and consultant paediatrician for The Children's Hospital and the Jessop Maternity Hospital, Sheffield. Currently president of the Sheffield branch of the National Spastics Society, Dr. Illingworth serves on the Society's Research Board and on the Medical Advisory Committee, British Council for the Welfare of Spastics.

Published by McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 36, N.Y. 1960. 421 p. illus., figs., tabs. $12.00.

Reviewed by R. S. Illingworth, M.D.

THIS IS AN INTERESTING addition to the books on cerebral palsy, written by a well-known expert, and it certainly has the merit of being different from others. The authors make a laudable effort to break down the iron curtain between cerebral palsy and mental subnormality and link together cerebral palsy, mental deficiency, epilepsy, hyperkinetic behaviour disorders and deafness, blindness, aphasia, and clumsiness of cerebral origin, under the generic term *syndromes of cerebral dysfunction*. They rightly point out the similarities in the aetiology and pathology of some of these conditions and the frequent combination of two or more of them in one child. The text is apparently intended to cover all these conditions, but in fact it gives only partial and very incomplete cover of conditions other than cerebral palsy, though there is a good section on the well-recognised condition of hyperkinetic behaviour disorders. Whether or not all these conditions can legitimately be linked together is a matter of opinion, but there are so many admixtures of physical, sensory, and intellectual difficulties in one child that some attempt to unify them was altogether desirable.

The authors have some interesting comments in connection with aetiology. They rightly, I believe, mention the decreasing acceptance of the idea of birth injury as a cause of cerebral palsy. This is a long-held theory for which it is extremely difficult to find scientific support. It is not easy, for instance, to prove that a baby who survives has had an

intracranial haemorrhage, particularly if the cerebrospinal fluid and subdural tap were negative. The authors give the highest figure for the incidence of hereditary factors in cerebral palsy (10-40%) that I have yet seen. It is high time that a careful study of this problem was made. Little has been written about it, but it is clear that hereditary factors are important. (Approximately 4 percent of my own 400 patients at Sheffield had affected siblings.)

The authors sensibly, I think, use the classification advocated by the American Academy for Cerebral Palsy. This classification has recently been the target of much criticism by European workers, but no one has suggested a better one or one that can be so readily understood. I see no purpose, however, in subdividing athetosis into 12 types, as the authors do.

A chapter on the sensory and perceptual-motor difficulties is good and other chapters deal with the medical approach to diagnosis and prognosis, a medical timetable of treatment, development stages and related therapy, the team approach, neuromuscular education, the psychological picture, and adolescence. The section on physiotherapy is particularly comprehensive and detailed and, in my opinion, the most useful part of the book.

At the end of each chapter are many references, with the full title of the paper, which is very desirable. It is a great pity, however, that extensive European work on the subject, especially British and Scandinavian, is almost completely omitted.

The section on diagnosis and differential diagnosis is inadequate. It makes no reference to the invaluable work of Peiper, Prechtl, or André-Thomas on the neurological examination of the newborn, nor, for that matter, to subsequent American work on the subject. This is highly relevant to the subject of cerebral palsy. The early signs of cerebral palsy are barely mentioned, and all types of cerebral palsy are bunched together, as if the early diagnostic signs were the same in all groups. Some dubious statements concerning early diagnosis are made. For instance, the authors say, "To help in diagnosis in this early period, certain medications such as phenobarbital and chloral hydrate on the one hand and the amphetamines on the other may serve as differential signposts" (because phenobarbitone *sometimes* makes children with abnormal brains irritable) *(p. 116)*. "When one suspects cerebral palsy or related dysfunction, the points to watch for are: (1) Head. The fontanels should not be bulging, excessively wide, or barely open in the early months. Normally, the anterior fontanel may close at from 6 to 18 months. However, if they barely admit the tip of a finger before 6 months, or show no signs of closure by 12 months, detailed neurologic studies are indicated to rule out microcephaly, hydrocephaly, subdural hematoma, or brain tumor" *(p. 117)*. Surely there are great normal variations in the age at which the fontanelle closes. It is not at all uncommon to find the anterior fontanelle closed by 5 months in a normal child, or to find a fairly widely open one at 12 months. Serial head measurements would be easier to perform than detailed neurological studies.

Discussion of a variety of important problems is either inadequate or missing altogether. These problems include the management and education of the child with mixed deficits (*e.g.*, cerebral palsy, deafness, and mental subnormality): the role of the enzyme chemist and neurobiochemist in the elucidation of the aetiology; the natural history of cerebral palsy; the problems of the parents of handicapped children; febrile fits and breath-holding attacks in the section on epilepsy; the difficulties of assessing the value of treatment of cerebral palsy, because of the numerous variables involved (*e.g.*, the type and severity, the differing levels of intelligence, the associated handicaps, the increasing maturity of the child with increasing age, with the consequent difficulty of deciding how much the apparent improvement is due to treatment and how much to increased maturation, the personality of the child, the attitude of the parents), and the importance of the double-blind method of assessing the value of drugs (so that the examiner assesses the child without knowing whether he is receiving the placebo or active drug at the time).

The really important problem of deciding which children to treat and which not to treat is not seriously discussed. In one European country 2 percent of affected children are treated by the state. What is to happen to the rest? How is one to help the mothers of seriously spastic, mentally defective, bedridden patients? Something must be done, for the mothers need a lot of help. If one is to select the minority of patients with milder cases for treatment, one cannot just ignore the majority with much more severe forms that respond very little if at all to treatment. It is a problem that has to be discussed. The section on treatment gives one the impression that the authors are treating only those with relatively less severe forms and with a reasonably good level of intelligence. What of the rest?

Much space is given to tables that are of little value. For instance, I cannot see that Table 4-5, listing chronic illnesses such as diabetes, bone tumours, bronchiectasis, and leukaemia, has any bearing on the subject. Table 5-3 purports to give the incidence of convulsions, but closer inspection shows that 2 out of 3 is interpreted as being synonymous with 67 percent, and 5 out of 7 as 71 percent. Table 4-1, amongst innumerable investigations suggested in a case of cerebral palsy, includes laboratory tests of the blood urea nitrogen, plasma uric acid, gamma globulin, and cholesterol esters. I have been unable to think of the relevance of these or many other investigations listed.

I note that pneumoencephalograms are advocated as a routine investigation. It is a matter of opinion as to whether this procedure is justified and ethical in all cases.

I personally can see no justification for it in any but exceptional cases. I can see no value in many of the other tables.

In such a controversial subject as cerebral palsy, it is only to be expected that there will be many differences of opinion on many aspects of the problem. Amongst other statements in the book with which I find it difficult to agree are the following:

1) That emotional stress can cause cerebral palsy *(p. 25)*;
2) That convulsions are a feature of mongolism *(p. 43)*;
3) That convulsions in infancy are usually the result of haemorrhage *(p. 47)*;
4) That dysentery is a likely cause of epilepsy *(p. 45-46)*;
5) That the hyperkinetic syndrome may lead to adolescent delinquency and antisocial behaviour *(p. 47)*;
6) That frequent colds are an early sign of cretinism *(p. 124)*;
7) That "crawling or creeping occurs from 6 to 12 months in only half of normal infants" *(p. 119)*;
8) That "many retarded infants show scars of an emergency laparotomy or herniotomy" *(p. 118)*. The significance of this statement escapes me. The authors evidently regard this as important for the statement is followed by the admonition in italics *"Keep this in mind."* I can see no relationship between laparotomy and cerebral palsy.
9) That a premature infant should attain a normal developmental level by 9 to 12 months unless he suffers from additional handicaps *(p. 123)*. He may, but surely the fact that a child has missed 3 months' development in utero is just as true 9 months after birth as it was one month after birth, and appropriate allowance must be made for it;
10) That "tonics should be given for poor eating habits" to "assure parents that their child will get all the necessary foods in the tonic even if he does not eat at all" *(p. 123-124)*;
11) That when there is sleep resistance the mother should stay in the child's bedroom from 7:00 p.m. to midnight *(p. 124)*. It would be much better to refer the reader to such reliable and sensible textbooks as that of Bakwin and Bakwin, Kanner, or Spock than to give advice like this.
12) In reference to bed-wetting, that the physician "should try to stave off early training until well after the age of 12 months," and that bed-wetting is due to starting to train too early *(p. 125)*. This statement is not supported by recent investigations in Britain.
13) That drooling will lessen with emotional maturity *(p. 125)*. I know of no evidence that drooling in cerebral palsy is of emotional origin.
14) That Dilantin sodium, Mysoline, or phenobarbital usually control major motor seizures in cerebral palsy *(p. 169)*. My experience in severe cases has not been so fortunate.

I do not agree with these statements, but the authors may be right.

The index is totally inadequate. I looked in vain for such subjects as physiotherapy, diagnosis, prognosis, hip (*e.g.*, subluxation, abduction), phenylketonuria, intelligence (*e.g.*, IQ, assessment), assessment of the value of treatment, teeth, pathology, birth, psychological problems, aminoaciduria, and education, amongst many others.

The book cannot compete with the very excellent and reliable texts of Cruickshank and Raus, Viola Cardwell, and Crothers and Paine, but it will be of interest to senior physiotherapists and will give them useful guidance in treatment.

A Comment from the Authors on the Review

WHEN DR. DENHOFF reviewed in Rehabilitation Literature *the book* Recent Advances in Cerebral Palsy, *edited by Dr. Illingworth (see* Rehab. Lit., *March, 1959), he invited Dr. Illingworth to review his own forthcoming book. In follow-up of this invitation, the Editor asked Dr. Illingworth to review* Cerebral Palsy and Related Disorders. *We requested also that Dr. Denhoff and Dr. Robinault reply to the review of their book, as published above. Their reply is given below. The Editor now invites all interested persons to read* Cerebral Palsy and Related Disorders. *We are sure that Dr. Illingworth, as reviewer, and Dr. Denhoff, as senior author, will welcome your correspondence on the book and the review. The Editor will be glad to forward such correspondence to them.—The Editor.*

DR. ILLINGWORTH's qualified endorsement of our book has constructive aspects. It is only through honest disagreement that growth and development in cerebral palsy can take place. We are certain that Doctor Illingworth's ultimate goal, as well as ours, is to help solve, in better ways, problems that now are obstructing the successful adjustment of the cerebral palsied. We all agree that new approaches must be tried, focused around treatment of the whole person, who should be guided toward the role in society for which he is best fitted.

On the whole, we are pleased to note that Doctor Illingworth finds many positive values within our

work. He recognizes that there is a need to break down the iron curtain between cerebral palsy and related disorders. He praises the chapter on the hyperkinetic child, as well as the chapters on sensory and perceptual motor difficulties and other chapters on diagnosis, prognosis, a medical timetable of treatment, developmental stages and related therapy, the team approach, neuromuscular education, the psychological picture, and adolescence.

His major objections center around medical diagnosis and differential diagnosis, and he enumerates 14 points in which he disagrees with us. Yet, he does agree that these points are controversial and a matter of opinion. Editorial space does not permit reply to his inquiries, but we should be glad to do so upon request.

His statement, "In such a controversial subject as cerebral palsy, it is only to be expected that there will be many differences of opinion on many aspects of the problem," is the key to his whole review of *Cerebral Palsy and Related Disorders.*

We are trying to develop new concepts, new technics to replace older, stagnant ideas, which to date have failed to show any marked improvement in the lot of the children born with or who acquire cerebral palsy.

No doctor or scientist today can state the exact reason or reasons for cerebral dysfunction. We are all searching for the truth, and, if old or current methods give no answers, then our intellectual curiosity forces us into new avenues of approach. This was the reason for the publication of *Cerebral Palsy and Related Disorders.* We hold our new avenues of approach (even though we know a cure is still many investigations away) to show how it is possible to help those best able to be helped.

When means are found for rehabilitating well a "minority of milder cases," then it may be possible to concentrate on the majority with more severe forms of disability. Let us remember that not too many years back there was no such differentiation among those afflicted with cerebral palsy!

Doctor Illingworth will probably be interested to learn that, even since the senior author's contribution of the medical section to Cruickshank's book, his thinking on certain aspects of cerebral palsy has taken new shape through the continual assessments made at the Meeting Street School.

This book should not be considered just another textbook, nor was it intended to be a detailed compendium of every neurophysiological disability of childhood. Rather, it was written to supplement what has not been written yet about a very challenging subject. Cruickshank and Raus, Cardwell, and Crothers and Paine are all fine books. However, the area of *Cerebral Palsy and Related Disorders* has such wide horizons that the interested physician, nurse, therapist, educator, and psychologist will surely find added perspective in "A Developmental Approach to Dysfunction."

—ERIC DENHOFF, M.D.
ISABEL P. ROBINAULT, PH.D

Other Books Reviewed

82

Arthritis and Allied Conditions; A Textbook of Rheumatology

Edited by: **Joseph Lee Hollander,** M.D. (and collaborators)

1960. 1306 p. illus., tabs. *(6th ed.)* Lea & Febiger, Washington Square, Philadelphia 6, Pa. $20.00.

DR. RUSSELL L. CECIL, considered the "Dean of American Rheumatologists," notes in his foreword that this authoritative reference book for both students and physicians has, throughout its various editions, earned a position of unusual prestige. Extensive additions have been made in the material of previous editions by an expanded list of authoritative contributors. Dr. Cecil particularly lauds inclusion of an article on stress in relation to rheumatic diseases, by Dr. Hans Selye. Each contributing editor has reviewed the literature in his special area of interest and evaluated recent research experience, both his own and that reported by others. To illustrate the extent of revision, Dr. Hollander points out 16 chapters that have been entirely reorganized and rewritten and the 19 entirely new chapters added. Reference aids are the bibliographies following each chapter and the boxed summaries allowing rapid review of information.

83

The Charities of London, 1480-1660; The Aspirations and the Achievements of the Urban Society

By: **W. K. Jordan**

1960. 463 p. tabs., graph, maps. Originally published in England by George Allen & Unwin, Ltd., and later in the U.S. by Russell Sage Foundation, 505 Park Ave., New York 22, N.Y. $6.00.

PHILANTHROPHY IN ENGLAND, 1480-1660, the first of Dr. Jordan's scholarly studies on the development of moral and social responsibility in England during the period, was published in 1959 (see *Rehab. Lit.,* Nov., 1959, #818). This book, the second of the series, covers the charitable and social aspirations of an urban population dominated by the merchant aristocracy. One third of the great charitable endowments of the period are estimated by Dr. Jordan to have been London's contribution. Further, one third of London's gifts were given for the benefit of communities in all parts of England. Not only does the book document the profound historical and social changes of the times; it mirrors life in a city unique in its size, wealth, and variety of social problems. For a similar study of conditions in Bristol and Somerset, see the book review below.

84

The Forming of the Charitable Institutions of the West of England; A Study of the Changing Pattern of Social Aspirations in Bristol and Somerset, 1480-1660

By: **W. K. Jordan**

1960. 99 p. tabs. Paperbound. *(Trans., Am. Philosophical Soc. Oct., 1960. Vol. 50, Part 8)* American Philosophical Society, 104 S. Fifth St., Philadelphia 6, Pa. $2.00.

AMONG THE 10 COUNTIES selected for study of the social problems of England in the 16th and 17th centuries, Bristol and Somerset formed an important and unique entity. Bristol, though small compared to London, was one of the three or four truly urban areas, dominated by a merchant aristocracy; Somerset remained one of the most completely rural counties in the nation. The trends of historical change and social transformation in each, representing efforts of the urban aristocracy and landed gentry, are contrasted as reflected in the social and institutional achievements wrought by private charity. For anyone interested in the origins of the philanthropic impulse and in the social life of England during this particular era, Dr. Jordan's previous books and this essay should be considered a reliable and scholarly source of reference. (For listings to previous books of this series, see *Rehab. Lit.*, Nov., 1959, #818, and this issue, #83.)

85

Hearing Enhancement

By: **John A. Victoreen,** LL.D.; with a foreword by Frank S. Forman, M.D.

1960. 183 p. figs., tabs. Charles C Thomas, Publ., 301-327 E. Lawrence Ave., Springfield, Ill. $7.50. (Published simultaneously in Canada by The Ryerson Press, Toronto, and in England by Blackwell Scientific Publications, Ltd., Oxford, England)

IN AN ATTEMPT to bring common understanding of the problems facing those with impaired hearing, Dr. Victoreen has written an elementary textbook on the fundamental principles of acoustics and physics as they apply to practical application of hearing instruments. Those in the fields of otology, audiology, and otometry will find a common terminology that should aid them in their co-operative efforts. Basic general principles that determine how the ear and the hearing instrument function together are explained comprehensively although medical and pathological aspects of hearing are not included. Diagrams and data from the author's laboratory are presented in a manner designed for easy reading and understanding. The mechanics of the hearing aid and the reasons why some instruments work better in given cases are discussed, although make and type of aid are not named. The author is a well-known physicist who has worked primarily in the area of radiation measurement.

86

Occupational Therapist's Manual for Basic Skills Assessment or Primary Pre-Vocational Evaluation

By: **Florence S. Cromwell,** M.A., O.T.R.

1960. 101 p. figs., tabs., forms. Spiral binding. Paperbound. Published by the author and available from either the American Occupational Therapy Association, 250 W. 57th St., New York 19, N.Y., or Miss Florence S. Cromwell, 3431 N. Fair Oaks Ave., Altadena, Calif., at $1.75 a copy.

DESIGNED AS AN AID for the occupational therapist in assessing persons seeking primary vocational evaluation, this manual describes the tests used and the administration of the testing program as developed during a research project conducted by United Cerebral Palsy Association of Los Angeles County, 1957-1960 *(Office of Vocational Rehabilitation, Special Research Project No. 105).* Tests include an activities of daily living inventory, a battery of 6 manual dexterity tests, and a prevocational job sample test battery of 21 operations. Personal characteristics are observed and rated during testing. Directions are given for recording information on profile sheets. Intended for use in combination with other evaluative

services in the total rehabilitation program, the program is most appropriate in working with persons who have never been employed or those whose disability presents a question of feasibility for training or employment. In addition to providing reliable skills information about any client, the program offers a means for predicting eventual outcome in regard to employment.

87

The Pathology of Cerebral Palsy

By: **Abraham Towbin, M.D.**

1960. 206 p. figs., tabs. Charles C Thomas, Publ., 301-327 E. Lawrence Ave., Springfield, Ill. $8.00.

DR. TOWBIN'S scholarly study of the fundamental organic processes in the brain in cerebral palsy was begun in 1949 at Ohio State University and continued at the Neuropathology Institute of Munich, Germany, where he had opportunity to review at first hand case material of basic neuropathological investigations. Many of the book's illustrations are from the archives of the Institute, reprinted by permission. In this "transsectional view" of the basic pathology of the disorder, clinical material is correlated with autopsy findings. The importance of pathology to cerebral palsy; the nature, familial aspects, and course of the disorder; systemic disturbances of the fetus and newborn producing cerebral palsy; local intracranial processes and developmental defects of the brain as causes; and organic processes producing cerebral palsy, mental deficiency, and epilepsy as a triad are discussed. Physicians and specialists with an interest in the causes, care, and treatment of cerebral palsy will gain better understanding of the complex variety of etiologic mechanisms involved in the disorder through Dr. Towbin's interpretations. Author and subject indexes are included.

88

Reading and the Psychology of Perception

By: **Hunter Diack**

1960. 155, xxiii p. figs., tabs. Philosophical Library, Inc., 15 E. 40th St., New York 16, N.Y. $6.00.

THROUGH STUDY of the development of language in children and research concerned with various aspects of teaching reading, conducted at the University of Nottingham's Institute of Education (England), the author became interested in the question of how children perceive words, which, in turn, led to re-examination of the Gestalt theory and its influence on modern teaching of reading. Because of the heated controversies over methods of teaching reading and the results of such systems, this book has a very timely interest. The writer outlines the historical background of reading theory, presents in some detail his observations on the development of language and perception in young children, examines the current situation in regard to teaching methods, and offers constructive suggestions for their improvement. It is heartening to realize that the pendulum is swinging back to recognition of the value of teaching phonics and that individual letters have meanings.

89

Les Responsabilités Chrétiennes de l'Educateur Spécialisé

By: **Marie-Hélène Mathieu** (with the collaboration of **Henri Bissonnier, Jean Tack, Anne-Yvonne Bouts,** and **Roger Latour**) ; preface by His Eminence, Cardinal Feltin, Archbishop of Paris

1960. 138 p. Paperbound. Editions Fleurus, 31-33 rue de Fleurus, Paris 6e, France. 6,70 NF.

CONTAINING THE ANNUAL REPORT of the Congress of the Union Nationale des Assistantes et Educatrices de l'Enfance of France, this publication represents the findings of a year's study concerning the religious responsibilities of special education teachers working with physically, mentally, socially, or emotionally handicapped children. The organization is a professional association of Catholic teachers trained to work in all areas of special education. Each of the collaborators in this report has contributed a separate chapter covering the general aspects of the problem of responsibility and the special education teacher's responsibility to himself, the child, and to the community in religious matters. The appendix contains a tabulation and summary of the responses to a questionnaire survey undertaken to determine opinions of teachers on special problems in teaching. Conclusions of the Congress are also summarized.

90

Stuttering and What You Can Do About It

By: **Wendell Johnson,** Ph.D.

1960. 208 p. University of Minnesota Press, Minneapolis 14, Minn. $3.95.

WRITTEN BOTH FOR the adult stutterer and for parents of children who stutter, Dr. Johnson's most recent book is a highly readable account of his years of laboratory research to discover the basic causes of the disorder and the means of preventing or alleviating it. His own early struggle to overcome the handicap of stuttering motivated his eventual choice of a career. Transcripts of tape-recorded interviews with parents and much case material are woven into the narrative account of the search for answers to the problem. Much practical advice is offered on what parents should and should not do in coping with

the child's speech disorder; a final chapter counsels adult stutterers on how they may help themselves to overcome the handicap. For those who desire additional information Dr. Johnson refers to some of his previous books and pamphlets upon which this book is largely based (see *Rehab. Lit.*, May, 1959, #356 and 450).

91

Through the Barriers of Deafness and Isolation; Oral Communication of the Hearing-Impaired Child in Life Situations

By: **Boris V. Morkovin,** Ph.D., in collaboration with **Lucelia M. Moore,** M.S.

1960. 178 p. illus. The Macmillian Co., 60 Fifth Ave., New York 11, N.Y. $4.50.

WRITERS FROM THE FIELDS of psychology, otology, audiology, education, and therapy have contributed information basic to an understanding of a functional approach in helping hearing-handicapped children acquire oral language. Especially designed for training courses, this text explores the role of the family in the child's habilitation and considers the medical, audiological, and psychological aspects of hearing impairment and language development. The Multisensory Life Situation Approach provides the child opportunity for active participation in normal experiences that supply the foundation for acquiring skills in speech, speech reading, and language. Educational and recreational activities useful in such training are described in abundance; the bibliographies following each chapter are additional aids to those working with hearing-handicapped children. Appendixes contain a periodicals listing, directories of specialized hearing services and public residential and day classes in the United States, and a state-by-state list of member agencies of the American Hearing Society. Includes a subject index.

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The Tutoring of Brain-Injured Mentally Retarded Children

By: **James J. Gallagher,** Ph.D.; with a foreword by Samuel A. Kirk, Ph.D.

1960. 194 p. figs., tabs. Charles C Thomas, Publ., 301-327 E. Lawrence Ave., Springfield, Ill. $6.75. (Published simultaneously in Great Britain by Blackwell Scientific Publications, Ltd., Oxford, England, and in Canada by The Ryerson Press, Toronto)

FINANCED BY THE Illinois State Department of Public Welfare's Mental Health Fund and initiated as a result of Dr. Kirk's previous research at the University of Illinois Institute for Research on Exceptional Children, this research report of an experiment to determine the effect of individual tutoring on 42 brain-injured, institutionalized mentally retarded children at Dixon State School is a major contribution to the field. It not only has proved that educational methods can be subjected to rigid control for research purposes but also has demonstrated the possibility of improving behavior and intellectual development by intensive instruction. In his introduction Dr. Gallagher discusses theory of brain function, reviews briefly the literature on resultant effects of brain injury on children who are mentally retarded, summarizes major changes suggested for educational programs for these children, and describes very briefly some recent experimental projects to evaluate training programs for the brain-injured. The remainder of the book describes in detail the procedures of the tutoring project and results obtained. Six case histories illustrate the range of response noted in the group as a whole. Six major implications of the study are discussed in conclusion. A bibliography of 94 references and appended data and forms used in the study are included.

In the March Issue

The Article of the Month featured for March will be "Significance of Public Attitudes in the Rehabilitation of the Disabled," by G. Allan Roeher, Ph.D. The author is co-ordinator of rehabilitation for the government of Saskatchewan, Canada, and director of the Co-ordinating Council on Rehabilitation of the same province.

The Review of the Month will be of *TOWER: Testing, Orientation and Work Evaluation in Rehabilitation*, written and published by The Institute for the Crippled and Disabled of New York City. William G. Gellman, Ph.D., executive director of the Jewish Vocational Service, Chicago, will be the reviewer.

Journal articles, chapters of books, research reports, and other current publications have been selected for digest in this section because of their significance and possible interest to readers in the various professional disciplines. Authors' and publishers' addresses are given when available for the convenience of the reader should he desire to obtain the complete article or publication. The editor will be most receptive to suggestions as to new publications warranting this special attention in Digests of the Month.

93

Physical Medicine in Rehabilitation for Arthritis in Children

By: **Miland E. Knapp, M.D.** *(Director of Physical Medicine and Rehabilitation, Elizabeth Kenny Institute, Minneapolis, Minn.)*

In: *J. Am. Med. Assn.* Dec. 10, 1960. 174:15:1951-1953.

PHYSICAL METHODS of treating arthritis in children differ from those used for adults only in respect to problems created by: disturbances of growth; difficulty in controlling the child; the greater natural activity of children; and the longer life expectancy. Of course, the hypertrophic type of arthritis due to degenerative processes is absent. Growth, occurring at the ends of the long bones in the epiphyses, is affected by factors including circulatory changes, use or disuse, and contractures. Long-standing inflammatory changes may increase blood supply and cause overgrowth. Inactivity has the opposite effect, as do contractures. Contractures unequal in relation to affected joint areas may cause deformities disproportionate to the arthritis, particularly in fascial shortening, as in the fascia femoris. This can produce disabling genu valgum as well as hip flexion and abduction deformity.

A child tends to use muscles and joints to the limit of his ability, maintaining range of motion when it is not limited by some factor such as pain. Controlling a child who is developing a deformity requiring rest or inactivity can be difficult.

The chronic nature of arthritis and the long life expectancy of the child call for a carefully planned and controlled long-term program. Discouraged parents tend to shop for a miraculous cure or "wonder drug" and flit from doctor to chiropractor to faddish diet and back to doctor, while the patient, neglected, develops deformities that require extensive, expensive treatment, if correction is possible. A realistic, hopeful attitude in parents must be worked for, so treatment will be continued until the disease burns itself out. The pediatrician or general practitioner should be the uniting force, with the physiatrist and consultants closely co-operating. The physiatrist should steer the patient through the years of acute disease, remissions, and exacerbations, so he will have a minimum of unchangeable deformity and dysfunction.

Paramount is the relief of pain, so that functional ability will be greatly enhanced. Sometimes a period of restriction or abolishment of motion is needed for this relief, but possible bad effects should be carefully considered. Moist heat is most efficient in relieving pain. We use hot packs and whirlpool baths a great deal. If the mother will devote the time needed, hot packs can be excellent. Hot soaks or whirlpool baths require more apparatus but less effort. The simplest type of heat application is infrared radiation, with an infrared lamp, or use of a simply constructed baker with ordinary light bulbs. This is efficient if luminous heat is suitable. It often helps relieve pain but is not very useful in overcoming contractures. More complicated heat therapy, short-wave diathermy, microthermy, and ultrasound are not easily used with small children and require expensive equipment and expert therapists. Travel to and from a physical therapy department is usually required, lessening the usefulness and efficiency.

The second objective of physical treatment is the prevention or relief of contractures. In the acute painful stage, bed-positioning is important. The bed should be firm with bed boards over the springs and a felt mattress or sometimes a 3-inch sponge rubber mattress. An innerspring mattress encourages hip flexion contractures, even with a board, for the hips sink into the mattress. Only a very small pillow should be placed under the head; pillows should never be used under the knees. With severe pain the patient's position should be changed frequently. No joints should stay in flexion for more than 2 hours at a time.

If contractures have developed when the patient is first seen, an adequate range of motion should be induced, best preceded by moist heat treatment. Motion must be carried out within the limits of pain or without aggravating pain so immobilization is promoted. Prolonged gentle stretch with an improvised apparatus using weights the patient can tolerate for at least an hour is often helpful. Sometimes contractures must be stretched gradually with use of stretching casts and splints giving a graduated pressure by means of spring or rubber binders. Surgery sometimes must be done to overcome soft tissue contractures. When a hip flexion-abduction contracture has been caused by tightness of the tensor fascia femoris, a tensor fasciotomy is done, as in patients with poliomyelitis. A posterior capsulotomy for flexion contracture of the knee may be needed. For most permanent results these procedures

should wait until the active phase of arthritis is over.

Contractures may be made more supple and less crippling through massage. Deep stroking sedative technics should be included, along with some friction and mild kneading to stretch the fibrous tissue. Pain should be avoided. Care should be taken not to spread infection from a septic joint into the blood stream. Massage should be over the muscle where benefit may be greater and harmless.

Increasing muscle strength where bulk and strength have been lost is important in reducing disability. Exercises should be given as soon as the acute phase is over. Heavy-resistance, low-repetition exercises are best, although somewhat dangerous in arthritis since too much effort and strain on the joint and muscle can increase pain. Good judgment must be used not to aggravate the fundamental process. Once atrophy develops it is hard to overcome. Gentle, assisted active exercise can be used quite early in the disease to maintain muscle strength even when pain is important. Active exercise often helps relieve the ache accompanying immobility.

The Journal of the American Medical Association is published weekly by the Association, 535 N. Dearborn St., Chicago 10, Ill.; subscription rates in advance, annual domestic and Canadian $15.00, foreign $22.00, students, interns, and residents in U.S., possessions, and Canada $7.50; single copies 45¢.

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Relief Home to Rehabilitation Center

By: **H. D. Chope, M.D., Dr.P.H.** *(Director, Dept. of Public Health and Welfare, San Mateo County, Calif.),* and **E. H. Nordby** *(Administrator, Crystal Springs Rehabilitation Center, San Mateo, Calif.)*

In: *California's Health.* Dec. 1, 1960. 18:11:81-84.

IN YESTERDAY'S COMMUNITIES the "poor farm," "almshouse," "pest house," and the "relief home" were all too familiar landmarks. Their tragic complement of dehumanized and depersonalized "inmates" reflected with shocking clarity the difference between the humanity we professed and the inhumanity we practiced. Dependency and disordered behavior were indices of basic, inherent depravity not amenable to treatment, and the unworthy were banished into institutions basically punitive in nature.

San Mateo County has critically evaluated some of the old concepts and has developed or accepted new concepts and philosophies in the health, welfare, and correctional field. Conversion of a county relief home to a comprehensive rehabilitation center is one example representing a giant step forward in a community's concept of enlightened social responsibility.

In February, 1954, changes began to take place at the Crystal Springs Home, which was a 135-bed county institution operated as a "relief home," with the "inmates" receiving "custodial care for elderly indigents." It became the "Crystal Springs Rehabilitation Center," giving "rehabilitation treatment services for patients with long-term illness." Emphasis began to be shifted, the largely untrained staff centering their efforts on restoring dignity, status, self-respect, and self-esteem in the individual patient. The dietary improved after a survey by the nutrition section of the State Health Department. Food was served as attractively as possible instead of inmate style, mealtime hours were made more normal, sugar and condiments on the tables offered a choice of seasoning, patients were consulted on preferences, and before-bedtime snacks were provided. These little things indicated to the patients that the management considered them humans capable of personal decisions with opinions of value in determining policy.

Library, occupational therapy, and patients' service committees were formed. A new community spirit expressed itself, as church groups and service and women's clubs enthusiastically sponsored rehabilitation activities, supplying materials, tools, and money and finding volunteer arts and crafts teachers. The outlook of the patients improved, the mildly depressed responding well, although the severely depressed were still depressed. Volunteers were recruited, a psychiatrist, a part-time physical therapist, an occupational therapist, and social workers for evening work.

Now the Board of Supervisors and the community are convinced that rehabilitation rather than custodial care is the modality of choice. The professional staff has grown so that as of May, 1960, it includes: *Full-time,* 2 physical therapists, 2 occupational therapists, 1 medical social worker, 1 dietitian, 1 speech therapist, 1 director of rehabilitation nursing (M.S. degree), and 10 charge nurses (R.N.); *Part-time:* 3 internists, 1 physiatrist, 1 psychiatrist, 1 urologist, 1 orthopedic consultant, and 1 vocational counselor. This team meets in case conference to staff all new admissions and plan discharges. Patients sometimes participate. Both patients and staff respond to the new positive, optimistic, hopeful outlook that permeates the institution.

Insofar as facilities permit, the patient areas are divided into intensive care, intermediate care, and self-care. Transfer from one to another is made after careful re-evaluation. This arrangement is practical from the standpoint of giving care and is psychologically sound for the patient. Prior to discharge, the patient is assured that if things go wrong the institution is ready to help him in any way; interestingly, this aid is rarely sought, for the patient feels he is not alone and is thereby more self-confident.

The increased cost of the per patient day is regarded as an investment in human well-being rather than an

expense item per se and has proved to be a sound public investment. A substantial number of citizens have been restored to independent living in their own communities. The following table of patient flow from January 1, 1954, to January 1, 1960, represents the unduplicated count, not reflecting additional discharges and readmissions between

Admissions	569
Deaths	69
Total	500
Discharges to	
Employment	68
Private living	244
County hospital	140*
Other institutions	48†

*To Community Hospital (county general hospital) for more intensive medical care.

†To County Tuberculosis Sanatorium (chronic disease ward), Agnews State Hospital, Soldiers Home (Yountville), and private nursing homes.

the Rehabilitation Center and the community hospital. Most such discharges were for corrective surgery, diagnostic work-up, or care in acute illness. Of the 140 discharged to Community Hospital, with no subsequent readmission, many were terminally ill. Others in need of bedside nursing care and unable to profit from rehabilitation were transferred to nursing homes.

In a nursing home the cost of maintaining the 312 patients discharged to employment or private living would have averaged $3,600 per year. Assuming the 68 discharged to home are self-sufficient and that the 244 living in private quarters do so at a cost of $1,800 per year, the over-all saving would amount to $684,000 per year.

$3,600 x 312 = $1,123,200 per year
$1,800 x 244 = 439,200 per year
Savings $ 684,000 per year

Many studies indicate that the ultimate cost of caring for the continuously increasing proportion of older people will become an insupportable burden for the working population unless immediate, positive, constructive measures are taken to restore this group to the highest level of independent self-care. The community also gains from the contributions that can be made by a productive older group.

It must be ever borne in mind that the rehabilitation center is an intimate, integral part of the community, with the purpose of returning the patient to his own real neighborhood with maximum capacity for effective function. Perhaps we can see emerging the community of the future, which will have as one of its major concerns the health and well-being of all its members.

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The Condition of American Nursing Homes, a Study

By: **Subcommittee on Problems of the Aged and Aging, Committee on Labor and Public Welfare, U. S. Senate.** Chairman of the Subcommittee, Pat McNamara, Michigan.

1960. 27 p. tabs. *(86th Congress, 2d Session)* U.S. Govt. Printing Office, Washington 25, D.C.

EVERY TROUBLED SON or daughter anxious to find a good nursing home for a parent is dismayed and often shocked by the inadequacy, the hopelessness, inherent in most nursing homes. The general picture is, of course, contradicted by the best of the commercial nursing homes—unfortunately a small minority. Costs in these good homes are relatively high, commensurate with the cost of services provided. The poor commercial homes, also a minority, lack adequate care, medical service, and any rehabilitation and have dismal physical facilities, commodes in living spaces, are overcrowded, nauseating, and unsafe. Too many states consider them as meeting minimum standards; others license them under grandfather clauses or as provisional homes. Most homes are moderately safe, provide nursing care varying from indifference to warm sympathy, are generally clean, and meet minimum standards of space, nutrition, and fire protection. A lone television set provides about the only recreation. Minimal floor space between beds and in hallways makes activity difficult and often dangerous. Routine physician attendance is rare and restorative services a vague ideal.

Most proprietary nursing home operators do the best they can within limits of income. Some are outstanding, and they try to improve conditions. Cost is the problem. It is impossible for even the most altruistic proprietors to give registered nursing service, routine medical care, rehabilitative and recreational activity, and still make even a small profit.

Nursing homes are traditionally regarded as the last stopping place for the old, the point of no return. Homes lag far behind our modern concepts and knowledge. A realistic set of criteria for an effective nursing home should include: full-time professional nursing care, physical therapy, casework service, psychiatric attention, the attention of other medical specialists, recreational therapy, and a dynamic, uncompromising drive for restoration. Approach should be complete and systematic. Recent training institutes, conferences, research programs, and use of consultants on this problem are notable and important but still at the level of demonstrations and are not the pattern.

The average nursing home, often unwillingly, promotes passivity and immobility, leading to muscular atrophy and total disability. Most patients, however, have surprising mobility and mental clarity and could be restored

to independent living. Dependence is reversible, independence attainable. The prime problem is lack of medical care and restorative service in most homes; related problems are the shortage of beds, replacement of unsafe and structurally dysfunctional homes, and the need to establish and enforce minimum standards insisting on active restoration.

Findings of the Study

Recent Trends

From 1950 to 1960, the number of those 65 years and older in the population increased from 12 to 16 million (up 33%), those 75 and older from 3.9 to 5.4 million (up 38%). The nursing home population (which declined in the depression and rose after 1940) went up at least 50 percent between 1950 and 1960. For every 100 people aged 60 to 64, there are about 34 persons 80 years of age or more—increasingly retirees will have parents or close relatives needing nursing home care.

The "new" nursing homes are too often in a large, old family structure, the owner or operator with no nursing training. They sometimes are boarding houses whose long-term residents began to need nursing care. The lag in raising standards of homes has resulted in gross neglect of too many patients. Proprietary homes are increasingly established as part of a chain. The owner can be in business without nursing or medical knowledge. Most states license homes, not operators or owners.

Advanced medical knowledge makes it possible for large numbers of patients to benefit from new technics. The comparatively recent geriatric hospitals and centers point the way to the nursing home as a rehabilitative and preventive health facility, with patients returning to normal life or, if necessary, transferring to a hospital without having developed complications from being bedfast.

Characteristics of Nursing Home Patients

The average age of patients is 80; two-thirds are over 75, and two-thirds are women. Studies in various states indicate that over half to 68 percent have been in homes for over a year, 8 to 15 percent for over 5 years, and that chances are 172 in 1,000 that those 85 or older will become nursing home patients. The National Opinion Research Center found that 3 to 5 percent of older people were in institutions; 10 percent of those interviewed were "very sick"; another 4 percent were "too sick to be interviewed." Most nursing home patients have two or more disabilities, two-thirds some circulatory disorder, and over half some periods of disorientation. Less than half can walk with assistance and one-third are incontinent.

The elderly have a lower incidence of acute illness but use twice the number of hospital days per capita per year as the general population. About 77 percent of those age 65 and over and 83 percent of those 75 and over have one or more chronic illnesses. Some 42 percent of those 65 and over and 55 percent of those 75 and over suffer limitations of activity due to chronic disabilities. About 2 million over age 65 outside of institutions are completely limited in activities because of chronic illness (1959), many of whom will be seeking admittance to a nursing home.

Number of Nursing Homes and Services Provided

State reports, under the Hill-Burton Act, show 9,700 *skilled* nursing homes and 307,681 beds, an increase of 48 percent in homes and 79 percent in beds since 1954. In 1954 the average home had 25 beds, in 1960 31 beds. If all types of homes had the same rate of increase, there would be some 37,000 homes. The 1954 inventory of all types of nursing homes and related facilities reported a total of 450,000 beds in 25,000 homes. Four types of homes have been listed: skilled nursing homes, personal care homes with skilled nursing, personal care homes without skilled nursing, and sheltered homes providing a minimum of services.

While nursing home facilities increased over 50 percent in less than 10 years, about 2 out of 5 persons in nursing homes coming under the Hill-Burton Act occupy "nonacceptable" (fire and health hazards) beds. As of July, 1960, the Act figures indicated a total nursing home bed shortage of 261,054, a deficit of 60 percent. Total needed is 434,705 beds at present. Out of 307,681 existing beds, 173,651 were "acceptable" and 134,030 "nonacceptable." There are no beds for 127,024 persons now needing nursing home care. In some states "nonacceptable" beds do not include a census of homes not providing skilled nursing care and others exclude census of unlicensed homes with 3 or fewer beds.

The shortage of nursing home beds is felt most acutely in rural areas. The shortage extends into old age the deprivations and discriminations against nonwhite groups.

The Nursing Home Staff

Only a third of the homes have registered and licensed practical nurses. The largest share of care is given by nurses aides and orderlies. The quality and amount of skilled nursing care are directly related to the requirements set and enforced by the state. Much greater shortages exist in staff specialists, such as physical therapists and nutritional experts. The prestige and salaries of nursing homes are low. The states having the advantage in the supply of physicians and nurses tend to have more *skilled* nursing home beds. In recent years special workshops and inservice instruction have been a means of improving the staffs.

Physician Services and Adequacy of Medical Care

According to the American Nursing Home Association, about 61 percent of the homes have a staff or consulting physician, most on a part-time basis. Reports from differ-

ent states indicated: that most homes with a preponderance of welfare patients barely meet minimum standards; that patients in public medical facilities appeared happier and less restricted than those in private nursing homes; that more drugs were purchased by some local nursing homes than could be used and that local public welfare agents told of excessive visits by doctors or of visits with little time spent for medical needs; and that medical records were not accurately or completely kept. The Nebraska Governor's Commission on Aging stated that only 148 of 348 nursing homes reported that they received signed medical orders and that only 15 reported that physician's services were provided by the home.

Costs of Nursing Homes

The cost per resident day for nursing home care ranges between $2 and $13.85. Costs are influenced by the number and qualifications of the staff; size of the home (the larger the lower per resident); nursing, medical, and rehabilitation care provided, nutritional standards, and recreation available; economic status of the area; and type of home—proprietary, voluntary, or public. Salaries account for between 25 and 80 percent of operating costs and average 50 to 60 percent of total costs. Construction costs, which can be as much as $14,000 per bed, have made federal assistance essential.

Recommendations of the Subcommittee

The Subcommittee on Problems of the Aged and Aging proposed:

1. The Department of Health, Education, and Welfare develop suggested minimum standards for patient care in nursing homes designed to restore and maintain to a maximum degree the physical and mental independence of patients. These minimum standards should be considered as a "floor" for state standards in their supervision of nursing homes, public and private, which care for patients receiving federal public assistance grants.

2. The Congress consider adoption of a program of financial assistance to nursing homes that meet the minimum standards for medical and restorative services. The Department of Health, Education, and Welfare should be requested to develop a suggested plan and formula for this assistance program.

(Continued from page 41)

74. Schultz, D. A., A Study of Nondirective Counseling as Applied to Adult Stutterers. *J. Speech Disorders,* 12, 1947, 421-427.

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88. Trotter, William D., Relationship Between Severity of Stuttering and Word Conspicuousness. *J. Speech and Hear. Disorders,* 21, 1956, 198-201.

89. Wepman, J. M., Familial Incidence in Stammering. *J. Speech Disorders,* 4, 1939, 199-204.

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92. Wischner, G. J., An Experimental Approach to Expectancy and Anxiety in Stuttering Behavior. *J. Speech and Hear. Disorders,* 17, 1952, 139-154.

93. Wischner, G. J., Stuttering Behavior and Learning; A Preliminary Theoretical Formulation. *J. Speech and Hear. Disorders,* 15, 1950, 324-335.

Abstracts of Current Literature

This abstracting section, together with other numbered references indexed in this issue, serves as a supplement to the reference book Rehabilitation Literature 1950-1955, *compiled by Graham and Mullen and published in 1956 by the Blakiston Division of McGraw-Hill Book Company, New York. An author index will be found on the last page of the issue.*

AMPUTATION—EQUIPMENT

96. Erdman, William J., II *(Univ. of Pennsylvania School of Medicine, Philadelphia 4, Pa.)*

Comparative work stress for above-knee amputees using artificial legs or crutches, by William J. Erdman, II, Th. Hettinger, and Florencio Saez. *Am. J. Phys. Med.* Dec., 1960. 39:6:225-232.

Comparisons between work stress while walking with an artificial leg and that while using crutches were made in 9 amputees wearing above-knee prostheses. Findings from measurement of oxygen consumption and pulse rate have implications for the rehabilitation of both healthy amputees and amputees with cardiac problems, since it was found that walking with crutches imposes a heavier load on the heart. In addition to the psychologic advantage of wearing a prosthesis, it can relieve the heart of the extra burden involved in crutch walking.

97. Murdoch, George *(Univ. of St. Andrews, St. Andrews, Scotland)*

The limb prosthesis and rehabilitation. *Rehabilitation.* Oct.-Dec., 1960. 35:15-24.

Traces the historical background of amputation and development of prostheses for limb replacement, discusses briefly indications for amputation, and describes the six standard levels for amputation of the lower extremity. More difficult problems of replacing the upper extremity are considered and rehabilitation aspects and types of prostheses presently available are reviewed.

ART

98. Lampard, Marie T.

The art work of deaf children. *Am. Annals of the Deaf.* Nov., 1960. 105:5:419-423.

The author, as an art teacher, was asked by Dr. Miriam Fiedler, director of psychological research at the Clarke School for the Deaf, Northampton, Mass., to study the collected paintings of 20 deaf children, in an attempt to discover differences in these paintings and those of hearing children. What these differences *appear* to be and their possible implications for improving methods of education were considered. Differences in technic and subject matter were most apparent; the deaf child, seriously handicapped in verbal language, does not seem to think in terms of communication even when dealing with a visual medium like paint. There is need to provide these children with more meaningful experience and develop in them the habit of communicating it.

ARTHRITIS

99. Jacobs, J. H. *(North Middlesex Hosp., London, England)*

Osteoarthritis of the hip-joint. *Annals Phys. Med.* Nov., 1960. 5:8:318-326.

A review article of the etiology and pathology, diagnosis, and treatment of osteoarthritis of the hip joint. Principles of physical therapy and methods of treatment in the condition are discussed, as well as indications for surgery and the surgical procedures used.

See also 82; 93.

ASTHMA

100. Kripke, Sidney S. *(4200 E. Ninth Ave., Denver 20, Colo.)*

Psychologic aspects of bronchial asthma. *Am. J. Diseases of Children.* Dec., 1960. 100:6:935-941.

One of a series of seminars prepared by individual staff members of the Department of Pediatrics at the University of Colorado Medical Center to review recent developments in particular areas of pediatrics. Investigation of the literature reveals maternal rejection to be the basis for most of the discussion concerning emotional aspects of bronchial asthma. Fear of separation from the mother is the trait most commonly found in asthmatic children. Personality characteristics of the child and the mother have been studied, as well as characteristics of other family members. The role of emotional factors in precipitating the actual attack is considered, as well as their importance during therapy.

AUDIOMETRIC TESTS

101. Sortini, Adam J. *(Hearing and Speech Clinic, Children's Med. Center, 300 Longwood Ave., Boston, Mass.)*

Hearing evaluation of brain-damaged children. *Volta Rev.* Dec., 1960. 62:10:536-540.

Diagnostic aids in determining the brain-damaged child's ability to hear and understand are discussed; most widely used are noisemakers, tuning forks, speech audiometry, and both objective and subjective pure-tone audiometry. Difficulties in determining the hearing status of cerebral palsied children are considered. Dr. Sortini stresses the need to re-evaluate periodically, with a battery of tests, the original diagnosis.

BACKACHE

102. Rodriquez, Arthur A. *(9145 S. Ashland Ave., Chicago 20, Ill.)*

Physiatry in the diagnosis and management of some back disorders. *Indust. Med. and Surg.* Dec., 1960. 29: 12:565-569.

Electromyographic studies and electrodiagnostic testing are of definite value in the differential diagnosis of back disorders; Dr. Rodriquez explains their use, advantages, and disadvantages. Principles of physiatric treatment for back disorders or back pain are outlined briefly. Individualized treatment insures maximum good results.

BLIND—MENTAL HYGIENE

103. Dishart, Martin *(601 23rd St., N.W., Washington 7, D.C.)*

A study of the effectiveness of psychological services for the blind. *New Outlook for the Blind.* Dec., 1960. 54:9:351-356.

A report of the effectiveness of counseling services received by 60 "legally blind" adults at the Columbia Lighthouse for the Blind, Washington, D.C. Services included weekly individual and group counseling for the clients and group counseling for families of clients. Accuracy of the "psychological profiles" of 93 "legally blind" adults was also evaluated. Definite advantages were found in close co-operation of rehabilitation and psychological services in serving clients. A partial list of counseling and testing items is included. Parts of the article were taken from the author's doctoral dissertation, George Washington University.

BLIND—PROGRAMS

104. Wilson, John *(Royal Commonwealth Soc. for the Blind, London, England)*

Training and employment of blind people in rural communities. *Internatl. Labour Rev.* Nov., 1960. 82:5: 450-463.

Suitable training provided for the blind in rural areas of underdeveloped countries would enable them to live independently and with dignity in their own communities. The writer describes various experiments in the training and employment of the blind in many parts of the world, evaluating results and pointing out some of the difficulties of coping with local problems.

BLIND—SPECIAL EDUCATION

105. Maloney, Elizabeth *(Industrial Home for the Blind, 57 Willoughby St., Brooklyn, N.Y.)*

Itinerant teaching services from the viewpoint of the private agency for the blind. *Internatl. J. Educ. of the Blind.* Dec., 1960. 10:2:51-57.

Printed in adapted form under different title in: *New Outlook for the Blind.* Dec., 1960. 54:9:367-371.

Itinerant teaching programs for blind children offer wider educational experience for the individual child. The private agency for the blind has an important role in developing sound new programs of service; the writer describes specific areas of service offered by the Industrial Home for the Blind, Brooklyn. As the pilot program that it inaugurated was accepted and taken over by local authorities, the Home's work with teachers has developed more in the area of social consultation and less in the educational field.

See also 135.

BRACES

106. Holser, Patricia

Upper extremity control brace instruction manual. Los Angeles, United Cerebral Palsy Assn. of Los Angeles County, 1960. 20 p. illus.

First reported in *Am. J. Occupational Therapy,* July-Aug., 1959, the brace has been improved and its usefulness in self-feeding by athetoid adults is being studied. Instructions for assembling the various parts of the brace are included, as well as a complete parts list that can serve as a guide in ordering replacements as needed. Section II describes the purpose and objectives of the continuing study; the last two sections describe the mechanics of the brace, its adjustment and care, and teaching its use to the patient. Since the appliance can be used by both children and adults and by patients with other disabilities characterized by involuntary motion, the manual should be of wide interest. Sources of supply for a variety of equipment found helpful in training athetoids have been listed.

The manual is being distributed by United Cerebral Palsy Association of Los Angeles County, 1726 W. Pico Blvd., Los Angeles 15, Calif., and the American Occupational Therapy Association, 250 W. 57th St., New York 19, N.Y., at $1.00 a copy.

BRAIN INJURIES—DIAGNOSIS

See 101.

BRAIN INJURIES—SPECIAL EDUCATION

See 92.

CEREBRAL PALSY

See p. 42; 87; 140; 152.

CEREBRAL PALSY—GREAT BRITAIN

107. Ellis, E. *(Percy Hedley School and Clinic, Newcastle upon Tyne, England)*

The management of cerebral palsy in the North of England. *Spastics' Quart.* Dec., 1960. 9:4:23-29.

Another of the papers presented at a conference held in July, 1960, on "The Management of Cerebral Palsy" (see this issue, *Rehab. Lit.,* #108). Development of the cerebral palsy center in Newcastle, an area relatively isolated compared to other sections of the country, differed in interesting ways from other centers. An outpatient service and a school serving resident and day pupils are in different wings of the same building and utilize the same staff members in care and treatment. The author, medical director of the School and Clinic, discusses administration of the program and the role of various governmental and voluntary agencies in the program.

CEREBRAL PALSY—DIAGNOSIS

108. Illingworth, R. S. *(University of Sheffield, Sheffield, England)*

The early diagnosis of cerebral palsy. *Spastics' Quart.* Dec., 1960. 9:4:3-15.

Difficulties and common mistakes in early diagnosis of cerebral palsy in infancy are discussed. Dr. Illingworth does not believe it possible to diagnose the mildest forms in the early months of the child's life. Special attention should be paid to what he terms "children at risk," those in whom the incidence may be expected to be higher. Diagnostic methods are described in some detail; illustrations included are reproduced from Dr. Illingworth's re-

cent book, reviewed in *Rehab. Lit.*, Sept., 1960, #624. The paper was presented at a two-day conference on "The Management of Cerebral Palsy," held in Newcastle upon Tyne, England, in July, 1960.

CEREBRAL PALSY—EMPLOYMENT—GREAT BRITAIN

109. Mair, A. *(Univ. of St. Andrews, St. Andrews, Scotland)*

Cerebral palsy and employment experience in Eastern Scotland. *Rehabilitation.* Oct.-Dec., 1960. 35:37-44.

Incidence of cerebral palsy in those under 21 years of age in a total population of 410,360 persons in the area of the Eastern Regional Hospital Board, Scotland, was investigated. This article, part of a comprehensive report, concerns opportunities for and success in obtaining and holding employment in cerebral palsied school leavers. Of patients surveyed, 50% were unfit for employment because of severe disability. Chances for employment appear reasonably good for those with reasonable potential reared in a secure and stable family environment. Data are given on prevalence of cerebral palsy, social class distribution, degree of mental and physical handicaps, types of occupations held, and work skills in relation to degree of disability.

CEREBRAL PALSY—EQUIPMENT

See 106.

CEREBRAL PALSY—ETIOLOGY

110. Williams, R. D. Brooke *(797 Elmwood Ave., Rochester 20, N.Y.)*

Mental defect, quadriplegia, and ichthyosis, by R. D. Brooke Williams and I. Ling Tang. *Am. J. Diseases of Children.* Dec., 1960. 100:6:924-929.

Case histories of two children from one family are reported in detail; both presented the characteristic clinical symptoms of severe mental retardation and ichthyosis in association with cerebral palsy. Aminoaciduria was found in both patients and in members of the immediate family; the syndrome is believed due to recessive inheritance. The similarity of these cases to others reported earlier in the literature is noted. The literature on ichthyosis associated with mental deficiency and quadriplegia is reviewed briefly.

CEREBRAL PALSY—MENTAL HYGIENE

111. Storrow, Hugh A. *(Dr. Jones, Univ. of California Med. Center, Los Angeles 24, Calif.)*

Management of emotional barriers to rehabilitation in cerebral palsied adults, by Hugh A. Storrow and Margaret H. Jones. *Arch. Phys. Med. and Rehab.* Dec., 1960. 41:12:570-572.

Results of psychiatric evaluation of 74 cerebral palsied adults seeking help at a vocational training center indicated 82% of the group manifested signs and symptoms of problems severe enough to interfere with rehabilitation efforts. Four different personality patterns—schizoid, denial, passive-dependent, and sublimation—could be reliably distinguished; significant relationships were found between personality patterns and severity of emotional symptoms. Most of the problems seen are amenable to management by the rehabilitation team without specialized psychiatric help. Methods are suggested for handling constructive characteristics of patients in a manner to promote rehabilitation.

CHRONIC DISEASE

112. Bogdonoff, Morton D. *(Duke Univ. Med. Center, Durham, N.C.)*

Perspectives of chronic illness, by Morton D. Bogdonoff and Claude R. Nichols. *J. Am. Med. Assn.* Dec. 10, 1960. 174:15:1936-1938.

Psychological and social aspects of chronic illness must be recognized by the physician caring for patients with chronic disease. It is the physician's responsibility to review frequently what the patient expects of him and he of the patient. The writers discuss how efforts aimed at dealing with various reactions to the presence of chronic illness may be expected to modify the course of the patient during illness. The physician should acquire skills of interviewing and counseling in order to deal constructively with these patients.

CHRONIC DISEASE—INSTITUTIONS

See 94; 95.

CONGENITAL DEFECT

113. Bick, Edgar M. *(30 E. 60th St., New York 22, N.Y.)*

Congenital deformities of the musculoskeletal system noted in the newborn. *Am. J. Diseases of Children.* Dec., 1960. 100:6:861-868.

Data from examinations of 5,000 newborn infants, made by the author over a 4-year period, concern the incidence of common congenital deformities of the musculoskeletal system. Possible relationship of certain maternal factors, especially those connected with circumstances of the mother's pregnancy, was also investigated. Difficulties in diagnosis at examination of the newborn are discussed, with the suggestion that this part of the physical examination be re-evaluated carefully at the follow-up examination made when the infant is 6 weeks of age. The later examination will disclose, he believes, a surprisingly large number of otherwise unrecognized lesions, many correctible with less difficulty at this early stage than if discovered later.

CONVALESCENCE—RECREATION

114. Tashman, Gene *(Sunnyview Orthopaedic and Rehab. Center, Schenectady, N.Y.)*

Recreation for the chronically ill. *Hospitals.* Dec. 16, 1960. 34:24:45-49, 122.

Objectives of a rehabilitation recreation program in a hospital serving patients of all age groups are noted. Activities planned to meet the varied needs of preschool children, those of school age, and chronically ill adults are described. Co-operation among the paid recreation

director, all departments of the hospital, volunteer workers, and the hospital auxiliary is responsible for success of the program. Article is illustrated.

DEAF—SPECIAL EDUCATION

See 91; 98.

DEAF—STATISTICS

115. **Patterns of Disease.** Dec., 1960.

Special report: Hearing disorders.

This issue of Parke, Davis & Co.'s monthly publication for the medical profession highlights incidence and degree of hearing loss by age groups, as well as causes of hearing impairment. Information is presented in statistical tables with explanatory text. Use of testing devices for detection of loss, the effect of environmental noise on hearing, use of hearing aids, and the value of surgical treatment for deafness are covered also.

Available on request from Parke, Davis & Co., Detroit 32, Mich.

DENTAL SERVICE

116. **Album, Manuel M.** *(Medical Arts Bldg., Hillside & York Rd., Jenkintown, Pa.)*

Providing dental care for the handicapped patient. *Am. J. Public Health.* Nov., 1960. 50:11:1727-1730.

Setting up a carefully planned dental program for the handicapped under the auspices of a crippled children's society or a hospital group requires the co-ordination of various agencies and interests on a community basis. The role of the dentist in program planning and his relationships with various community groups involved are defined. The program set up by the Philadelphia Society for Crippled Children and Adults is used to illustrate planning and administration of dental care services. Dr. Album serves as dental consultant to the National Society for Crippled Children and Adults.

EPILEPSY—SPECIAL EDUCATION

117. **Wallace, Helen M.** *(U.S. Children's Bureau, Washington 25, D.C.)*

School services for children with epilepsy in urban areas. *J. Chronic Diseases.* Dec., 1960. 12:6:654-663.

A special survey of school services provided for handicapped children in 106 of the larger urban communities of the United States, made in 1958, provided data for this report concerning provisions for epileptic children. Included is information on age at admission to school, type of educational placement provided and methods used in determining placement, agency responsible for establishment of criteria for special education services, personnel participating in review of applications, and financial aspects of care and methods of allocating funds. Suggestions for strengthening services are offered. (For similar articles on services to children with other types of handicaps, see *Rehab. Lit.*, Oct., 1960, #740, and Nov., 1960, #852.)

HARD OF HEARING

See 85; 91; 101; 115.

HARD OF HEARING—PENNSYLVANIA

118. **Myers, David** *(3701 N. Broad St., Philadelphia 40, Pa.)*

Role of family physician in the discovery and habilitation of the acoustically handicapped child, by David Myers and Richard A. Winchester. *Pa. Med. J.* Dec., 1960. 63:12:1779-1781.

When hearing loss goes undetected and untreated until children are of school age, educational growth will be retarded. The authors, members of the Pennsylvania Academy of Ophthalmology and Otolaryngology's Committee on Conservation of Hearing, point out the importance of early discovery of loss, the family physician's responsibility in securing aid for the child through specialized personnel and services, and his role in the child's habilitation, once a differential diagnosis is established.

HARD OF HEARING—EQUIPMENT

119. **Rushford, Georgina** *(John Tracy Clinic, 806 W. Adams Blvd., Los Angeles 7, Calif.)*

Use of hearing aids by young children, by Georgina Rushford and Edgar L. Lowell. *J. Speech and Hear. Research.* Dec., 1960. 3:4:354-360.

A large-scale survey of parents of children previously enrolled in the John Tracy Clinic's Correspondence Course yielded data on actual use of hearing aids by young children. Information was obtained from 1,515 families. Data on characteristics of the sample population are analyzed regarding age at discovery of hearing loss, agency or individual determining degree of loss, use of first or subsequent hearing aids, and areas of satisfaction or dissatisfaction with the hearing aid. Factors influencing satisfaction and use of the aid are considered.

HEART DISEASE

120. **Hellerstein, Herman K.** *(2065 Adelbert Rd., Cleveland 6, Ohio)*

Comprehensive care of the coronary patient; a challenge to the physician, by Herman K. Hellerstein and Amasa B. Ford. *Circulation.* Dec., 1960. 22:6:1166-1178.

Dealing with the impact of coronary disease on the social, psychologic, and physiologic balance of the individual, this article discusses the coronary patient as a member of society and as an individual, the impact of this particular disease on the individual's physiologic balance, and the clinical implications of comprehensive care. Recent research findings influencing the treatment of coronary patients are considered. Comprehensive care consists of helping the patient recognize his needs in the most important categories, developing an organized, specific plan of treatment, and obtaining the help of others in meeting the patient's social and psychological problems. 39 references.

HEART DISEASE—EMPLOYMENT

121. **Parran, Theodore V.** *(25100 Euclid Ave., Euclid 17, Ohio)*

Evaluation of work potential in the rehabilitation of the cardiac. *J. La. State Med. Soc.* Dec., 1960. 112: 12:453-459.

The work adjustment problems of 80% of heart patients can be handled easily, Dr. Parran asserts, by the private physician. With a good history and physical examination, an evaluation of the functional capacity of the patient's heart, and understanding of the emotional stresses to which he is subjected and of the energy cost of work activities, the physician should be able to make practical work recommendations of a positive nature, stressing the patient's abilities. Evaluation technics are discussed.

HEART DISEASE—OCCUPATIONAL THERAPY

122. Hendrickson, Donna *(6042 S. Dorchester Ave., Chicago 37, Ill.)*

A physiological approach to the regulation of activity in the cardiac convalescent, by Donna Hendrickson, Janet Anderson, and Edward E. Gordon. *Am. J. Occupational Ther.* Nov.-Dec., 1960. 14:6:292-296.

A description of the cardiac program in operation for two years at Michael Reese Hospital and Medical Center, Chicago. In the larger hospital the occupational therapist can assist such a program through establishing work prescriptions on the basis of energy costs. The process of evaluation and the progressive upgrading of work capacity, as well as the formulation of a proper work prescription, are discussed. A table of energy costs of self-care, of occupational therapy, recreational, and industrial activities, and of household tasks is included along with an example of a graded scale of activities. A daily record is kept of the patient's progress.

HEMIPLEGIA

123. Bruell, Jan H. *(3392 E. Scarborough Ave., Cleveland Heights, Ohio)*

Development of objective predictors of recovery in hemiplegic patients, by Jan H. Bruell and Jerald I. Simon. *Arch. Phys. Med. and Rehab.* Dec., 1960. 41:12:564-569.

From studies conducted at Highland View Hospital, Cleveland, a metropolitan rehabilitation center, it was found that age, systolic blood pressure, and time elapsing between the cerebrovascular accident and initiation of physical therapy were three factors that could be measured to predict prognosis. A composite score based on all three factors was found to predict recovery better than scores based on one or two factors only. The shortcomings of this objective method of prediction are discussed. Patients who recovered were revealed as younger than those who failed to recover, had lower systolic blood pressure, and started physical therapy earlier after suffering cerebrovascular accident.

HOME ECONOMICS

124. American Home Economics Association *(1600 20th St., N.W., Washington 9, D.C.)*

Proceedings, AHEA pre-convention workshop: Expanding the services of the home economist in rehabilitation. . . Denver . . . June 25-27, 1960. Washington, D.C., The Assn., 1960. 100 p. illus. Mimeo.

Contents: Management principles for independent living, Betty Jane Johnston.—The patient, the home, and the family, Victor A. Christopherson.—Nutrition and food management, Marjorie M. Morrison.—Current activities in rehabilitation, Julia S. Judson.—The role of home economic specialists in rehabilitation of the physically handicapped (a revised statement originally prepared by the American Dietetic Association and the American Home Economics Association).—Clothes for the physically handicapped homemaker, Clarice L. Scott.—Rehabilitation role of home economist in community planning, Mary C. Egan.—Teaching aids: films, exhibits, references.—Discussion group reports.—Expanding the services of the home economist in rehabilitation, Elizabeth Eckhardt May.—Evaluation and recommendations of Workshop, A. June Bricker.

HOME ECONOMICS—BIBLIOGRAPHY

125. Connecticut. University. School of Home Economics

Bibliography on home management, with emphasis on work simplification for handicapped homemakers, prepared by . . . Mary C. Callender and Susan Pike Corcoran under the direction of Mary Beth Minden. . . . Storrs, Conn., The School, 1960. 86 p. Mimeo. Paperbound.

One of a series of bulletins prepared as teaching aids for professional workers concerned with vocational rehabilitation of the physically handicapped homemaker, it contains briefly annotated references designated for use by the professional, for direct use with the homemaker, or as teaching aids. Those specifically pertinent to the handicapped are so marked. Material covers general home management, work simplification methods, home and kitchen equipment, kitchen design, convenient storage provisions, planning a home business center, and safety education within the home. Addresses of colleges and universities publishing home management material are included.

Available from Home Economics Research Center, University of Connecticut, Storrs, Conn.

MEDICINE (INDUSTRIAL)

126. Allan, W. Scott *(Liberty Mutual Insurance Co., Boston, Mass.)*

The need for rehabilitation in industry. *Phys. Therapy Rev.* Nov., 1960. 40:11:810-815.

Both humanitarian and economic reasons call for cooperative rehabilitation efforts to solve the growing problem of disability within the framework of private enterprise. Rehabilitation serves by restoring the earning power of workers, making possible more efficient use of manpower, removing the handicapped from public assistance rolls, and reducing the cost of disability. Areas where industry, insurance carriers, and public and voluntary agencies should concentrate efforts to realize full benefits of rehabilitation are pointed out. Mr. Allan, vice-president of Liberty Mutual Insurance Company, is the author of *Rehabilitation: A Community Challenge,* published in 1958 (see *Rehab. Lit.,* June, 1958, #714). This paper was presented at the 1960 Annual Conference of the American Physical Therapy Association.

Other papers, also presented at the Conference and included in this issue of *Phys. Therapy Rev.,* are: The role of the employer in the health of the worker, Dudley A. Irwin, p. 799-801.—(Same title), Miles O. Colwell, p. 802-804.—A labor health program; its development and services, Lorin E. Kerr, p. 805-809.

MENTAL DEFECTIVES—NEW YORK

127. Ferber, Bernard *(Dr. Brightman, 11 N. Pearl St., Albany 7, N.Y.)*

An interdepartmental approach to mental retardation; use of data from diagnostic clinics from program planning, by Bernard Ferber and I. Jay Brightman. *Am. J. Public Health.* Oct., 1960. 50:10:1570-1581.

Recognizing need for a co-ordinated interdisciplinary approach to mental retardation, the authors show how the New York State Interdepartmental Health Resources Board's activities in this field contributed to program planning through the establishment of pilot projects, centers offering diagnostic services, and parent counseling. Although findings reported by the clinics are characteristic only of their patient population, they reveal the trend of needs and areas for program planning.

MENTAL DEFECTIVES—EMPLOYMENT

See 157.

MENTAL DEFECTIVES—ETIOLOGY

128. Pasamanick, Benjamin *(Columbus Psychiatric Institute and Hospital, Ohio State Univ., Columbus, Ohio)*

Seasonal variation in the births of the mentally deficient; a reply, by Benjamin Pasamanick and Hilda Knobloch. *Am. J. Public Health.* Nov., 1960. 50:11:1737-1742.

A paper published in the *Am. J. Public Health,* Sept., 1958, by Drs. Pasamanick and Knobloch was critically reviewed by Dr. T. D. Sterling in the same journal in July, 1960 (see *Rehab. Lit.,* Nov., 1958, #1220, and Sept., 1960, #658). The present paper is the authors' reply to Dr. Sterling and centers on his three major areas of error, as they perceive them. They state that the finding that winter-born babies have a higher risk of being defective has been confirmed, that Dr. Sterling did not discuss the hypothesis that higher summer temperatures are related to this risk nor understand their discussion of possible mechanisms and implications of the findings for continued research and public health action.

See also 110; 138; 140.

MENTAL DEFECTIVES—PARENT EDUCATION

129. The Training School at Vineland (N.J.)

Development of parental aids for the retarded in leisure time and work activities; report of conference (held September 26, 1960, and sponsored by. . . .) *Training School Bul.* Nov., 1960. 57:3:67-84.

Purpose of the Conference was the consideration of possible and existing activities of direct benefit to parents of retarded children in the home and community setting. Brief summaries of five panel discussions and the complete text of a lecture are included here. The conference proceedings will be published in more detail by The Training School in the near future.

Contents: Lecture: Some basic considerations in helping the family with the retarded child's work and play, George S. Stevenson.—Panel Discussions: I. The preschool child; II. The mildly retarded child of school age; III. The moderately retarded child of school age; IV. The mildly retarded young adult; V. The moderately retarded young adult.

MENTAL DEFECTIVES—PSYCHOLOGICAL TESTS

130. Tobias, Jack *(575 Grand St., New York 2, N.Y.)*

The effectiveness of the Purdue Pegboard in evaluating work potential of retarded adults, by Jack Tobias and Jack Gorelick. *Training School Bul.* Nov., 1960. 57:3: 94-104.

Usefulness of the test in evaluating manipulative dexterity of retarded adults at the Sheltered Workshop and Training Center operated by the Association for the Help of Retarded Children, New York City, was investigated in related studies. Findings are analyzed. Wherever an equivalent correlation with IQ was computed, the test appeared to be a superior instrument in predicting productivity on the type of work available at the Workshop.

MENTAL DEFECTIVES—SPECIAL EDUCATION

131. Hudson, Margaret *(Santa Cruz High School, Santa Cruz, Calif.)*

Lesson areas for the trainable child. *Exceptional Children.* Dec., 1960. 27:4:224-229.

Data from a recently published research monograph by the author (see *Rehab. Lit.,* Jan., 1961, #55) on procedures for teaching trainable children are analyzed to determine the frequency of use of types of lessons in classes for such children. The implications of the findings for curriculum planning are discussed; a logical conclusion of the analysis is that types of lessons taught should vary according to age levels of the group. Major lesson areas can be adapted to wide age ranges in any class. School programs should include new lessons to fit increased experience and physical growth. Programs will still be limited by what is feasible in a particular class situation.

132. Sanders, Josephine P. *(Pacific Prevocational School, Seattle, Wash.)*

Administrative responsibility in programs for "trainable" mentally retarded children. *Exceptional Children.* Dec., 1960. 27:4:196-198, 201.

Major problems that have caused difficulty for administrators setting up educational programs for severely retarded children were disclosed in 403 replies from school districts having classes for "trainable" children. Identification and selection of such children is still difficult, and the administration of programs, especially in small school districts, is in a state of trial and error. Such programs will be judged ineffective and discontinued if they do not fulfill their purpose and if the children served are not those for whom the program is planned. Administrators must be responsible for selection policies insuring admittance of only those children for whom the program is intended.

See also 92; 135; 149.

MENTAL DISEASE

133. Howard, Bede F. *(352 Mt. Prospect Ave., Newark, N.J.)*

An optimistic report on total rehabilitative potential of

chronic schizophrenics. *Arch. Gen. Psychiatry.* Oct., 1960. 3:345-356.

Describes a multidisciplinary approach to rehabilitation of chronic schizophrenic patients in the Exit Ward of the Coatesville (Pa.) VA Hospital. "Pyschosocial milieu" therapy, coupled with intensive and judicious use of ataractic drugs, was considered decisive in remotivation, resocialization, and community placement of a large number of those treated. It is believed such a program could alter significantly the trend toward ultimate deterioration of chronic schizophrenics, formerly considered about 22% in groups so classified. 54 references.

MENTAL DISEASE—PROGRAMS

134. Barrett, L. M.

A use for voluntary help in the rehabilitation of mental patients. *Occupational Ther.* Nov., 1960. 23:11:27-31.

Describes an experimental program in operation at an English mental hospital for the past 9 months; interested church members invited selected patients for weekly visits in their homes. Committee meetings attended by hospital staff and the volunteer workers are held to discuss patients' progress, problems of a practical nature, and psychological reactions to be expected. The visits provide patients opportunity to experience again the normal life and routine of a home and friendship within the community. Several patients have shown marked improvement while participating in the program.

MULTIPLE HANDICAPS

135. Charney, Leon *(Natl. Assn. for Retarded Children, 386 Park Ave., S., New York 16, N.Y.)*

Minority group within two minority groups. *Internatl. J. Educ. of the Blind.* Dec., 1960. 10:2:37-43.

Educational provisions for the mentally retarded blind are seriously lacking; Dr. Charney quotes estimates of the numbers being served in various states as compared to those needing special education. Classification of the mentally retarded into educable and trainable groups further complicates the problem of devising curricula to meet their needs. A survey of NARC units revealed some problem areas and future plans for facilities for the education of the mentally retarded blind.

MUSCULAR DYSTROPHY—OCCUPATIONAL THERAPY

See 144.

NEUROLOGY

136. Denny-Brown, D. *(818 Harrison Ave., Boston 18, Mass.)*

Diseases of the basal ganglia; their relation to disorders of movement. *Lancet.* Nov. 19 & 26, 1960. 7160 & 7161. 2 pts.

A review of the natural history of diseases commonly affecting the basal ganglia of the brain, showing their general tendency to produce involuntary movements that progress slowly to states of rigid maintenance of abnormal attitude. Effects of acute destructive lesions that, in contrast, produce striking disorders of attitude from their beginning are also considered. Physiological analysis and inter-relations of the motor disorders are examined in Part II of the article. Both clinical study and experimental evidence indicate that the globus pallidus is an extremely important structure for integration of movement. Among the disorders discussed in some detail are Wilson's disease, Huntington's chorea, athetosis, dystonia, and parkinsonism.

137. Ellwood, Paul M., Jr. *(1800 Chicago Ave., Minneapolis 4, Minn.)*

Cerebral lesions in infancy. *J. Am. Med. Assn.* Dec. 10, 1960. 174:15:1958-1961.

Early detection of cerebral lesions in infancy is made difficult by the physiological immaturity of the infant brain. Basic technics of a modified neurological examination procedure aid in appraisal of the functions of subcortical structures; a developmental examination tests for emergence of function above the subthalamic nucleus. While these procedures provide significant information, three major imperfections in the present tools for examination are recognized. A direct approach to the problem is suggested through screening tests, especially of a metabolic nature, measuring cause rather than effect.

138. French, Joseph H. *(Dept. of Neurology, Johns Hopkins Hospital, Baltimore 5, Md.)*

Phenylketonuria; some observations on reflex activity, by Joseph H. French (and others). *J. Pediatrics.* Jan., 1961. 58:1:17-22.

Low threshold H reflexes were recorded from the anterolateral muscles in 5 of 12 patients with phenylketonuria; a similar incidence was noted in patients with congenital or infantile hemiparesis. It seems reasonable to assume, the authors believe, that the presence of the reflexes was due to immature spinal reflex arcs secondary to failure of development in descending pathways. There is some evidence that not only maturation but also the impact of disease upon a developing nervous system may be a factor in determining spinal reflex patterns.

NURSERY SCHOOLS

139. Diedrich, William M. *(Univ. of Kansas Med. Center, Kansas City 3, Kan.)*

The value of a preschool treatment program for severely crippled children, by William M. Diedrich, Barbara Allender, and Margaret C. Byrne. *Exceptional Children.* Dec., 1960. 27:4:187-190, 195.

Preschool children studied were, for the most part, brain-injured, mentally retarded, and physically handicapped. The experimental group had received treatment for 12 months; a control group of nontreated children was used for comparison. Physical, occupational, and speech therapy was incorporated in the crippled children's nursery school program. Motor development of upper and lower extremities, receptive and expressive language behavior, and personal-social development were tested; in the treated group performance was superior to that in the nontreated group in four of the five areas tested. A preschool training program benefits the child and the parents (through counseling) and can be used in screening educable retarded children.

NUTRITION

140. Karle, Irene P. *(Dept. of Nutrition, State Univ. of Iowa, Iowa City, Iowa)*

Nutritional status of cerebral-palsied children, by Irene P. Karle, Roberta E. Bleiler, and Margaret A. Ohlson. *J. Am. Dietetic Assn.* Jan., 1961. 38:1:22-26.

Earlier studies of the nutritional status of cerebral palsied children are reviewed briefly. The investigation reported here differs from earlier ones in that an attempt was made to evaluate nutritional status regarding past and present dietary intakes and concentrations of hemoglobin, serum ascorbic acid, serum vitamin A, and serum carotene. Subjects resided in a school for the severely handicapped. Although intakes of iron and protein did not, in several instances, meet the Recommended Dietary Allowances for healthy children, the cerebral palsied children appeared well nourished in spite of consuming fewer calories than recommended by the National Research Council according to their ages.

141. Umbarger, Barbara *(Children's Hosp., Elland and Bethesda St., Cincinnati 29, Ohio)*

Phenylketonuria; treating the disease and feeding the child. *Am. J. Diseases of Children.* Dec., 1960. 100: 6:908-913.

Experiences and observations of a research team at the Children's Hospital Research Foundation, Cincinnati, are discussed. The administration of low-phenylalanine diets to phenylketonuric children presented problems both during their hospitalization and in working with parents on planning the long-range dietary program. Considerable discussion with parents concerning the disease and its inheritance should take place before discussing the diet itself since lack of acceptance of the disease by the parents complicates treatment. Suggestions are made on the selection and preparation of food supplements.

See also 106; 124; 136.

OCCUPATIONAL THERAPY

See 86; 106.

OLD AGE—INSTITUTIONS

See 94; 95.

OLD AGE—PROGRAMS

142. Public Health Rep. Dec., 1960. 75:12.

Partial contents: Recent advances in geriatrics, G. Halsey Hunt.—Some aspects of gerontology in the United States, Stanley R. Mohler.—Expansion of co-operative relationships between hospitals and nursing homes, Robert Morris.—Health and welfare services for the aged, Albert L. Chapman.—Health for older people; 1960 National Health Forum: Current research on aging, Ewald W. Busse; Restoration of vision, Morris Feldstein; Environmental stresses, Steven M. Horvath; Loss of hearing, Edmund Prince Fowler; Podiatry for the aged, Edward L. Tarara.—Nursing services in homes for the aged, Franz Goldmann.—Health services at home; 1960 National Health Forum: The nature of health services, David Littauer; Official and voluntary agencies, Claire F. Ryder; Organization of the family, Albert F. Wessen; Visiting nurse service, Emilie G. Sargent; Community homemaker service, Marian R. Sanford; Trends in home care, Franz Goldmann.

With the exception of papers from the National Health Forum of 1960, appearing in summary form, the articles listed appear in full. Most are based on addresses presented at various meetings during the past year. Dr. Goldmann's report, covering one aspect of care of the aged, is one of a series of studies on co-ordination of health services for patients with long-term illness (for others, see *Rehab. Lit.,* Mar., 1960, #170; Sept., 1960, #646; Nov., 1960, #847; Dec., 1960, #920; and Jan., 1961, #62).

Single copies of this issue available from U.S. Superintendent of Documents, Washington 25, D.C., at 55¢ each.

PARALYSIS AGITANS

143. Doshay, Lewis J. *(710 W. 168th St., New York 32, N.Y.)*

Parkinson's disease. *J. Am. Med. Assn.* Dec. 10, 1960. 174:15:1962-1965.

Parkinson's disease is increasingly recognized as a distinct entity, due to a specific, though as yet unknown, cause, with definite onset and characteristic symptoms. The idiopathic variety is considered the only true form of the disease. Discussed are various syndromes formerly lumped together under the designation of Parkinson's disease that now can be easily differentiated from the true form. Various theories advanced to explain the etiology and pathology of the disease are examined.

PHILANTHROPY—GREAT BRITAIN

See 83; 84.

PHYSICAL EFFICIENCY

144. Morris, Ann G. *(Muscular Dystrophy Clinic, University Hosp., Cleveland, Ohio)*

A self-care program for the child with progressive muscular dystrophy, by Ann G. Morris and Paul J. Vignos, Jr. *Am. J. Occupational Ther.* Nov.-Dec., 1960. 14:6: 301-305.

A report of a study to determine what self-care activities could be performed by patients with muscular dystrophy at a particular level of physical functioning. Activities of daily living were analyzed in 35 patients with the childhood type of the disease. A five-point functional classification scheme, modified from the classification used in the University Hospitals of Cleveland, contains all the basic motions used in caring for oneself. Also described is a self-care program developed for these patients.

See also 121; 122.

PHYSICAL MEDICINE—PERSONNEL

145. Wallace, Helen M. *(U.S. Children's Bureau, Washington 25, D.C.)*

Medical manpower in physical medicine and rehabilitation. *J. Med. Education.* Dec., 1960. 35:12:1136-1151.

A paper presented at the Conference on Medical Re-

cruitment in Physical Medicine and Rehabilitation, called by the American Rehabilitation Foundation (a division of the Sister Kenny Foundation) in 1960. Dr. Wallace considered whether the supply of physicians in general practice and of qualified specialists is keeping pace with population demands, the factors known to motivate choice of area in medical careers, and how increased recruitment of physiatrists could be implemented. Estimates of the growing need for additional physicians are given.

PHYSICAL THERAPY

146. Brookes, R. Barrie *(Birmingham Accident Hosp., Birmingham, England)*

Recent injuries: 2. Physiotherapy in the treatment of recent injuries. *Physiotherapy.* Nov., 1960. 46:11:314-320.

A "Revision Series" article suggesting new attitudes toward the treatment of traumatic injuries. A functional approach in therapeutic activity and the introduction of prework activity under careful supervision can help to insure return of the patient to employment. Some more common injuries of the upper and lower extremity and of the hand, the back, and the head are discussed, with stress on general principles of treatment and diagnostic difficulties. Part I of this article was listed in *Rehab. Lit.*, Dec., 1960, #962.

PHYSICAL THERAPY—ADMINISTRATION

147. Redford, John B. *(School of Medicine, Univ. of Washington, Seattle 5, Wash.)*

Physical medicine: I. Sources of information. The physical therapy prescription. *Northwest Med.* June, 1960. 59:773-776.

An article serving as an introduction to a series planned to cover most phases of physical medicine useful to physicians in private practice. Discussed are sources of information about physical therapy, a basic list of quite inexpensive equipment, and the purposes and essential elements of the written prescription for physical therapy treatment. Dr. Redford stresses the necessity for the prescribing physician to check on the patient's progress in the physical therapy department.

PSYCHIATRY

148. Sainsbury, Peter *(Graylingwell Hosp., Chichester, England)*

Neuroticism in unselected out-patients attending physical medicine and orthopaedic departments. *Annals Phys. Med.* Nov., 1960. 5:8:310-317.

A psychiatrist's report of a survey investigating the possibility of psychologically differentiating patients with diagnoses commonly accepted as "psychosomatic" from other patients. Two traits or dimensions of personality—neuroticism and extraversion—were the psychological criteria used. Subjects were outpatients at the Royal West Sussex and St. Richard's Hospitals, Chichester. Patients with psychosomatic diseases were found more neurotic and less extraverted than those with other diseases. It is believed that neuroticism is not dependent on chronicity of an illness. A relatively large proportion of patients scoring high on neuroticism was found in the physical medicine and orthopedic clinics.

READING

149. Daly, William C. *(Orient State Institute, Orient, Ohio)*

Reading disabilities in a group of M-R children; incidence and treatment, by William C. Daly and Richard H. Lee. *Training School Bul.* Nov., 1960. 57:3:85-93.

The two phases of this study report an investigation of the incidence or extent of disability in a group of 77 institutionalized mentally retarded children and a reading experiment to determine the effectiveness of homogeneous grouping by reading level to improve reading speed in 26 children. Findings revealed dire need for some form of program of group developmental reading design and for a different type of reading stimulation program than the one reported.

See also 88.

REHABILITATION—LOUISIANA

150. Kidd, John W. *(School of Education, Northwestern State College, Natchitoches, La.)*

Diagnostic referral rates for exceptional children. *Exceptional Children.* Dec., 1960. 27:4:199-201.

Nine state colleges in Louisiana operate Special Education (diagnostic) Centers; diagnostic findings in 1,033 children referred to the center at Northwestern State College, Natchitoches, in slightly more than a 3-year span are summarized. Reasons for changes occurring in types of children referred are suggested. (For a description of services offered by the centers, see article listed in *Rehab. Lit.*, Nov., 1959, #865.)

REHABILITATION—MOROCCO

151. Gingras, G. *(6265 Hudson Rd., Montreal, Canada)*

Rehabilitation operation for 10,000 Moroccan paralysis victims, by G. Gingras and M. H. L. Desmarais. *Arch. Phys. Med. and Rehab.* Dec., 1960. 41:12:559-563.

Contaminated cooking oil caused an outbreak of more than 10,000 cases of paralysis in Morocco in 1959; through international co-operation professional personnel have been provided to carry out a rehabilitation program. The authors discuss clinical symptoms of patients affected, the rehabilitation plan, and administration of the Moroccan government's program to provide facilities for treatment and to supply welfare payments, as well as arrangements for long-term treatment of the victims.

REHABILITATION—LEGISLATION

152. United Cerebral Palsy Associations

Digest of federal and state laws and regulations affecting the handicapped, compiled for the benefit of children and adults with cerebral palsy. New York, The Assn., 1960. 63 p.

Although this digest was prepared mainly for those concerned with welfare of the cerebral palsied, a great majority of the laws, described state-by-state, benefit all physically or mentally handicapped persons. Provisions in each state for special education, vocational rehabilitation, state care, and state aid are discussed briefly; any current legislative studies being conducted in the various states are mentioned. Full texts of laws are available

through the Legal and Legislative Department, United Cerebral Palsy Associations, Inc. The digest has been planned as a permanent reference source to which supplements will be added annually.

Available from United Cerebral Palsy Associations, 321 W. 44th St., New York 36, N.Y., at $1.00 a copy.

REHABILITATION CENTERS—CALIFORNIA

See 94.

RELIGION

See 89.

SPECIAL EDUCATION

See 89; 131; 139; 150.

SPEECH CORRECTION

153. Hinze, Helen K. *(San Francisco State Coll., San Francisco 26, Calif.)*

Speech improvement; an overview. *Elementary School J.* Nov., 1960. 61:2:91-96.

Discusses evolution of theories behind current methods in speech improvement. Since the ultimate goal of training is normal speech production in conversation, it has been recommended that teaching material call for responses frequently used in conversation, that responses be phonetically simple to execute, that speech therapy be taught in a heterogeneous group—the classroom group, and that drill be based on real conversational patterns. Schools should recognize the need for forming good articulation habits in the primary grades. Theories of leading speech correctionists are reviewed briefly.

STUTTERING

154. Berlin, Charles I. *(VA Hosp., 42nd Ave. and Clement St., San Francisco 21, Calif.)*

Parents' diagnoses of stuttering. *J. Speech and Hear. Research.* Dec., 1960. 3:4:372-379.

Recorded speech samples of 6 stuttering and 6 nonstuttering children were presented under two conditions to 67 parents of stuttering children, 86 parents of children with misarticulations, and 57 parents of children speaking normally. Parents of stutterers appeared no more sensitive to nonfluencies than parents of children not developing stuttering, at least at the time and under the conditions of the study. The term stuttering was avoided in recruiting subjects and in instructions for the first conditioned test. Mothers of normally speaking children were the only ones not changing their diagnoses significantly from Condition 1 to Condition 2 (where parents were asked if the child stuttered).

See also p. 34; 90.

VOCATIONAL GUIDANCE

155. Iowa. State University. College of Education

Proceedings of the Conference on Pre-vocational Activities . . . Iowa City . . . April 19-21, 1960; edited by John E. Muthard. . . . Iowa City, The College, 1960. 78 p.

Contents: Procedures and practices in pre-vocational evaluation: A review of current programs, Martin G. Moed; Problems in measuring capacity and performance, Donald W. Fiske; Research issues in vocational evaluation, Walter H. Neff.—Summary of small group discussions.—Program descriptions presented at the Conference: The TOWER system, Institute for the Crippled and Disabled, New York City; Cerebral Palsy Work Classification and Evaluation Project, Institute for the Crippled and Disabled; Training Center and Workshop, Association for the Help of Retarded Children, New York City; An investigation into the vocational potentials of hospitalized patients with chronic disabilities, Sheltered Workshop Research Project, Highland View Hospital, Cleveland; The development of work sampling tests at May T. Morrison Center, San Francisco; The Vocational Adjustment Center program, Jewish Vocational Service, Chicago.—Summary descriptions (of six facilities' prevocational programs) submitted and distributed at the Conference.

Results of practical exploration and research findings in the area of prevocational activities in a variety of settings, discussed at the Conference, should be of interest to professional rehabilitation personnel and to students in the rehabilitation professions.

Distributed by Dr. John E. Muthard, College of Education, State University of Iowa, Iowa City, Iowa.

156. Nicholson, W. R. *(Fairmuir Special School, Dundee, Scotland)*

The employment of the handicapped school leaver. *Rehabilitation.* Oct.-Dec., 1960. 35:27-33, 55.

The headmaster of a special school reports the very satisfactory placement record of physically and mentally handicapped pupils, factors contributing to their acceptance in the work force, and administration of the training and placement program. Data from two recent investigations of pupils' employment records and of employers' attitudes toward such workers are included. Some needs still to be met and difficulties to be overcome are mentioned.

157. Patrick, Donna *(Hartford Rehab. Center, Hartford, Conn.)*

Retardates in a work adjustment program. *Am. J. Occupational Ther.* Nov.-Dec., 1960. 14:6:297-300.

A work evaluation service for educable mentally retarded persons between the ages of 18 and 35 is provided by the occupational therapy department of Hartford Rehabilitation Center. Administration of the program and experiences with clients are described. A listing of types of prevocational testing in semiskilled and unskilled work areas is included, as well as an outline of the job training program. Responsibilities of the occupational therapist are considered.

See also 86; 111; 130.

VOLUNTEER WORKERS

See 134.

WALKING

See 96.

Events and Comments

Library of Congress Offers New Listing of Tape-Recorded Books

BOOKS ON MAGNETIC TAPE No. 3: An Annotated, Cumulative List of More Than One Hundred Recorded Books Which Supplement The Talking Book Program of the Division for the Blind (Oct., 1960. Division for the Blind, Library of Congress, Washington 25, D.C. 17 p.) is available free from the Division for the Blind. The pamphlet brings up to date previous listings. Types of recorded books listed are: early classics, classics of the Middle Ages, Renaissance, and Reformation, important books of the 18th and 19th centuries, 20th century novels and stories, recent nonfiction, and radio programs and magazine articles. Directions are given for borrowing the records listed.

HEW Reports on Paralytic Poliomyelitis in 1960

IN 1960 ABOUT 2,500 persons had paralytic poliomyelitis, according to the January, 1961, issue of *Health, Education, and Welfare Indicators (Office of Program Analysis, U.S. Dept. of Health, Education, and Welfare, Washington 25, D.C.)*. This is comparable to 1957, one of the best years on record as to poliomyelitis. However, 8 million of the preschool children in the United States, the age group having the highest incidence of the disease, were inadequately protected (fewer than 3 shots) as of September, 1960. Of these, 4.1 million had had no vaccine.

Of the population under 60 years of age, about 93 million (60%) have had at least one dose of poliomyelitis vaccine. About 25 percent have now had four or more doses, compared to 14.2 percent in 1959. About 45 percent of those 20 to 40 years old are fully vaccinated.

Canadian Paraplegics Work as Fire Fighters

BURLINGTON, ONTARIO, Canada, has an adequate, if small, fire department to serve its 45,000 people in an area greater in size than metropolitan Toronto. The *WCB News Bulletin (Workmen's Compensation Board, Ontario, 90 Harbour St., Toronto, Ontario, Can.)* in issue no. 9, vol. 6 (1960), describes activities of the department.

In addition to the fire chief and 6 other paid personnel, 90 persons are volunteer fire fighters, trained in the use of the city's 9 pieces of apparatus. Four of the paid full-time employees are rehabilitated, trained disabled persons, who are capable dispatchers. They work on shifts, round the clock seven days a week, and are responsible for the movement of all equipment used by the department. They give the alert, plot the route to the site of the fire, and orally instruct the firemen of the area by two-way radio connecting each vehicle with the office. Three of the four are paraplegics confined to wheel chairs and the fourth is restricted in his activities. Their exacting work requires dexterity, alertness, calmness, and proficiency. They have all the attributes needed, although three of them cannot walk.

Duke University Center Organizing Clinics for Muscular Dystrophy

MUSCULAR DYSTROPHY clinics are to be established for both adults and children at the Duke University Medical Center, Durham, N.C. The Duke facility will be the 52nd such clinic in the United States to be supported by funds from the Muscular Dystrophy Associations of America. Dr. Jerome S. Harris, professor of pediatrics and chairman of the department, reports that the MDAA will reimburse the local clinic on a fee-for-service basis.

Minneapolis Unit Evaluates Work Capacity of Tuberculous And Pulmonary Patients

COSPONSORED BY THE Minnesota Tuberculosis and Health Association and the Hennepin County Tuberculosis Association, a new unit to measure the work capacities of tuberculous and pulmonary patients, primarily from Minnesota, began operation in Minneapolis on Nov. 22, 1960. The Christmas-Seal sponsored evaluation unit is the first of its kind in the state and in the upper Midwest. The MTHA has allocated $10,000 and the HCTA $4,000 each year.

The Elizabeth Kenny Rehabilitation Institute *(1800 Chicago Ave. S., Minneapolis 4)*, which houses a similar cardiac unit established in 1959, is providing space and also laboratory and social counseling services at reduced rates. Vocational counseling is furnished by the Minneapolis Rehabilitation Center. Patients, to be referred by private physicians, sanatoriums, and the disability section of Old Age and Survivors Insurance, will be charged fees on an ability-to-pay basis. Dr. Sumner S. Cohen, first vice president of HCTA, is serving as the unit's director.

National Health Council Forum To Meet in March

TO KEEP UP with developments published in medical and scientific journals a physician would have to read the equivalent of 27 books every day of the year. The physician's reading dilemma is one of the problems in health communication singled out by public health practitioners, scientists, public relations specialists, representatives of the press and television, and executives of voluntary health agencies at three workshops recently held to point up subjects for discussion at the 1961 National Health Forum on "Better Communication for Better Health." Sponsored by the National Health Council, the Forum will be held at the Waldorf-Astoria Hotel, New York City, March 14 to 16.

In addition to subjects suggested by the three workshops for discussion at the 1961 National Health Forum, there will be sessions on recent research in health communication, interagency communication, the "national image" of agencies, motivational research, examples of success and failure in communication through mass media, and ways of fighting quackery and faddism.

A Comment on

Rehabilitation and Workmen's Compensation

"THE INSURANCE INDUSTRY accepts the premise that physical rehabilitation is part and parcel of medical care under workmen's compensation. It maintains a deep interest in the subject and will continue to cooperate with all other interested parties in making further progress in this field.

"A complete program of rehabilitation of the injured workman is the constant goal of the insurer. To this end the best medical and surgical attention possible is provided in those states whose laws permit the carriers to select the physician and surgeon. The insurer's objective and that of the injured man are identical in this respect. By receiving the best medical care, the worker, in the average case, will be rehabilitated and returned to full earning capacity more promptly. The insurance industry has exerted considerable effort in encouraging employment of the physically handicapped. It has financed studies which indicate that, when placed at the proper jobs, the handicapped are as reliable as their able bodied fellow workers and have an equal or better safety and production record."—*From* Casualty Insurance Handbook, *p. 41-42, Insurance Information Institute, 60 John St., New York 38, N.Y. 1960. 55 p.*

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